THE ORCHID REVIEW

VANDA SANDERIANA

(See page 358.)

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THE ORCHID REVIEW

An Illustrated Monthly Journal

DEVOTED TO ORCHIDOLOGY

VOLUME IV

1896

London:

MARSHALL BROTHERS, KESWICK HOUSE, PATERNOSTER ROW, E.C.

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Mo. Bot. Garden
1906

"Accustomed as we are to look upon the animal and vegetable kingdoms as altogether distinct, our astonishment may well be awakened, when we see the various forms of the one appropriated by the flowers of the other; and yet such encroachments are but a part of the liberties which these Orchidaceæ are perpetually taking; for, as if it were too simple a matter to imitate the works of Nature only, they mimic the productions of art! But not contented to rest even here, they display a restless faculty of invention, fully equal to their powers of imitation, and . . . . thus we find their flowers exhibiting a variety of strange and unearthly objects, such as bear no resemblance to created things, nor yet to any of the works of man."—BATEMAN.

Subscriptions for 1896 are now due.

VOL. IV.] JANUARY, 1896. [No. 37.

THE ORCHID REVIEW:

An Illustrated Monthly Journal,

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THE ORCHID REVIEW.

VOL. IV.] *JANUARY*, 1896. [No. 37.

NOTES.

THE first meeting of the year of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, on January 14th, when the Orchid Committee will meet at the usual hour of twelve o'clock, noon. The next meeting is on February 11th.

We have received a very pretty hybrid from the collection of Mrs. F. L. Ames, Boston, Mass., a seedling raised by Mr. W. Robinson between C. Boxallii and one of the montanum forms of C. insigne. A hybrid between these two species was mentioned at p. 74 of our last volume, under the name of C. × Madame de Curte, but it has also received at least five other distinct names, and we are uncertain which is the original one. The present one resembles C. Boxallii more than the other parent.

Another flower of Cattleya labiata pallida, described at page 7 of our last volume, comes from the collection of J. W. Arkle, Esq., West Derby, Liverpool. Curiously enough, this season there is a broad crimson streak on the centre of the disc, and two or three small streaks on either side. Last year these were absent.

A flower of a hybrid Cypripedium comes from H. J. Ross, Esq., of Florence, which is believed to have been raised from C. × Dauthieri *Rossianum* ♀ and C. *præstans* ♂, though curiously enough it is almost an exact reproduction of the former, both in shape and colour. The chief difference is that the dorsal sepal is rather narrower and with rather more green.

Mr. Ross alludes to the Cypripedium × Ashburtoniæ with double-flowered spike mentioned at page 375, and states that his plants are all double-flowering, except when quite recently divided. The peculiarity probably arises from excess of vigour, and affords evidence of good culture. Others

frequently produce double-flowered scapes. Cypripedium Spicerianum has been known to produce a three-flowered scape, but we believe such an occurrence is excessively rare.

Mr. Ross also alludes to a variety of Cypripedium insigne called Pynaertii, which always produces double-flowered scapes. It has long stems and large blooms, in the way of C. i. Maulei. Mr. Ross considers it one of the best, and thinks it is little known in England.

Another white Cattleya labiata has just flowered in the collection of R. H. Measures, Esq., The Woodlands, Streatham. The flower is pure white with the exception of some yellow in the the throat, and thus is the variety C. l. alba. It is out of an importation from Messrs. Sander.

A fine flower of Vanda cœrulea from the collection of W. P. Burkinshaw, Esq., of Hessle, is $4\frac{1}{2}$ inches across its broadest diameter. Mr. Barker, the gardener, remarks that they have a much better one (presumably darker) which flowers every year in May and June. We have seen a similar very handsome form with Messrs. Charlesworth & Co., of Heaton, Bradford, and presume the character to be permanent.

Lælia anceps is one of the best of winter-flowering Orchids. Mr. Hamilton, gardener to Hamar Bass, Esq., Byrkley, Burton-on-Trent, grows it very successfully. He uses no shading, and remarks that, although this has a tendency sometimes to make the leaves pale, a little soot and lime strewed on the beds underneath soon make the leaves dark green again. They flower very freely under this treatment. L. a. Hilliana and the large richly-coloured L. a. grandiflora are enclosed.

At the Alderley Edge and Wilmslow Horticultural Society's Show, held on November 29th and 30th, fine collections of Orchids were exhibited from the collection of E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), and from that of Dr. Hodgkinson, The Grange, Wilmslow (gr. Mr. Worre), forming quite a feature of the Show.

Messrs. Charlesworth & Co., Heaton, Bradford, send a fine flower of Odontoglossum tripudians in which the ground colour of the lip is white, ultimately changing to light sulphur.

Oncidium cheirophorum is a very charming little autumn-flowering species, which succeeds well in hanging pans in the Cool house, its dwarf panicles crowded with pretty yellow flowers being very effective. A fine example comes from the collection of C. Winn, Esq., Selly Hill, Birmingham, the panicle bearing nine side branches with flowers larger than usual.

A fine flower of Cattleya Lueddemanniana, eight inches across, is sent by Messrs. Hurst & Son, Purbage Nurseries, Hinckley, together with a fine Odontoglossum Rossii majus, and others.

Cypripedium × Leeanum giganteum, the finest of the Spiceriano-insigne hybrids, with dorsal sepal $2\frac{3}{4}$ inches across, comes from the collection of W. Thompson, Esq., Waltham Grange, Stone. Mr. Stevens also encloses half-a-dozen named varieties of Lælia anceps, and a fine five-flowered spike of the beautiful natural hybrid L. × Gouldiana.

The plant of Sophronitis pterocarpa in the collection of W. E. Ledger, Esq., of Wimbledon, noted at page 100 of the last volume, has again flowered well, producing twenty-one flowers on five racemes.

A fine flower of Cymbidium Tracyanum comes frem the collection of W. P. Burkinshaw, Esq., of Hessle, and a rather darker one from Messrs. Sander. The latter is said to be from Upper Burma, thus confirming the previous records.

A fine flower of the rare Miltonia Phalænopsis comes from the collection of R. I. Measures, Esq., of Camberwell. The unique plant of Pleurothallis punctulata (Rolfe) in the same collection is now flowering very freely, all the old growths with leaves producing blooms as well as the new ones. The leaves are covered with a remarkable white mealiness.

The Orchids collected by Mr. G. F. Scott-Elliott on Mt. Ruwenzori, Tropical Africa, have proved very interesting, the great majority being new. Over forty species have been described in the *Journal of Botany* by Mr. Rendle, the most remarkable being Epipactis africana.

OBERONIA MYOSURUS.

This very curious little plant has just flowered in the establishment of Messrs. Hugh Low & Co., of Clapton, probably for the first time in cultivation. The leaves are terete, fleshy, and covered with minute greyish pustules, instead of being equitant, like a small Iris. The flowers are deep buff and very minute, but densely arranged in a cylindrical spike. The reflexed sepals and petals are practically hidden behind the lip, whose margin is broken up all round into a number of curved hairy teeth, giving it also as much the appearance of some strange insect as of a flower; the aid of a lens, however, being required to show its remarkable structure. It is a native of Nepal and Burma, and was described in 1830 (*Lindl. Gen. & Sp. Orch.*, p. 16).

R. A. R.

DIES ORCHIDIANÆ.

I NOTE with particular pleasure the two beautiful examples of good culture so admirably figured in the last two numbers of the *Review*. Mr. Woodall's Vanda cœrulea is superb, and his notes on its culture should be read by every grower of this useful autumn-flowering Orchid. It is well that a photographic illustration of the plant to which a First-class Certificate was awarded should be preserved. Similar remarks must be made with respect to Mr. Bennett-Poe's beautiful plant of Selenipedium caudatum Wallisii, which deservedly secured a Cultural Commendation. It is further interesting to note that these satisfactory results were both obtained by rational treatment—by imitating as far as posible the essential conditions under which these plants grow in a wild state. Were this rule more frequently followed, I believe that failures would be much less frequent than at present. The majority of such cases arise from subjecting plants to conditions which they have not been accustomed to in a state of nature—frequently through ignorance—hence they refuse to thrive, and often die outright. There is nothing remarkable in this, for even in a wild state plants only thrive where the conditions are suitable; elsewhere they are crowded out by a host of competitors. The cultivator may protect his plants from the struggle for existence, but he cannot make them grow under unsuitable conditions. Some people like to find out the proper treatment for themselves, and frequently succeed, but it may safely be affirmed that a knowledge of the essential conditions under which a plant grows is the surest and quickest guide to success.

Another matter to which I cannot avoid alluding, especially as it has a distinct hearing on the preceding remarks, is the frequent appearance at recent meetings of the Royal Horticultural Society of those quaint and beautiful plants, the Pescatoreas and their allies. It used to be remarked that no one could grow them for long, and even when they succeeded for a time they would suddenly go back for no apparent reason. Then it came out that Messrs. B. S. Williams & Son had succeeded in growing them for years, under conditions which have been detailed in the *Review*, and that others who had adopted a method of treatment in accordance with the conditions under which they grow naturally also found no difficulty with them, and now that their culture is no longer regarded as hopeless, I hope to see more of them in the future. They are a particularly interesting group, and seem to keep growing and throwing up occasional flowers throughout the year.

These points serve to emphasise the remarks made by Mr. Burberry

some time ago, that importers ought to furnish more information about the habitats of new Orchids than at present; and this could easily be done without disclosing the localities where they grow, if these must sometimes be kept secret. It seems to be thought that because a plant is a Dendrobium or an Oncidium, people will know how to treat it. But I once found a New Guinea Dendrobium resting in a Cool house with D. nobile, and the treatment killed it; and as to Oncidiums, they grow almost from sea level in the Tropics right up to the zone of Cool Odontoglossums in the Andes. We all know what happened when Odontoglossums were grown in the stove, and what would befall Oncidium Lanceanum in the Cool house; hence I fully endorse Mr. Burberry's remarks. The information would be much more useful than that sometimes furnished when a new Orchid is distributed, to which I have alluded on more than one occasion. Happily it does sometimes appear from other sources, and is always welcome.

Several times lately I have called attention to the rapidly growing confusion in the names of hybrid Orchids, and also suggested a remedy, and I note with pleasure that a correspondent of the *Garden* offers similar suggestions. "During the last four years," *Stelis* remarks, "at least 500 new names have been added to the Cypripediums, and it is a question whether these are all sufficiently distinct. Take for example, C. Ceres, C. Fascinator, C. Medea, and C. Marchioness of Salisbury, the result of crossing C. Spicerianum and C. hirsutissimum. Surely, however distinct, it might have been considered that the original name of the cross, C. Charles Richman, should have remained. My experience is that out of fifty plants obtained from the same pod of seed one could get, at the least, forty varieties, some with a few more spots and others a shade or two darker in colour. Is this, however, sufficient distinction to merit a new name? The Orchid Committee seems to think so. I am quite aware of the difficulties under which the Committee are placed, but they have a code of rules which appear to be followed as much in the breach as in the observance. I believe the rules are laid down that all exhibits shall be named in Latin, and a reference given to the botanist who has described the plant. This latter part might certainly be cut out in respect to hybrids, for the Kew authorties decline to deal with them, but in the case of species they are always willing to render every assistance. If the Latin naming was strictly adhered to, it would do away with useless and unnecessary names. The Committee, by setting their faces against complimentary and useless names, such as Charles Canham, the Hon. Mrs. Astor, &c., would benefit all lovers of Orchids."

Here is a promising addition to the ranks of our Rational Nomenclature

League, and I readily forgive him for getting a little mixed. Indeed, if I touched Cypripediums often I fear I should get mixed myself. Ceres, Fascinator, and Medea are all right, but not the others. Still, I can furnish the necessary illustration. C. × Charles Richman, × Météore, × Leysenianum, × François Peeters, and × Marchioness (or Countess) of Salisbury (both having been recorded), are all derived from C. barbatum and C. bellatulum. The moral holds good all the same, though I cannot quite endorse the remark about the Latin naming, for if all had received different Latin names the result would have been just the same. My own views that the proper name of this hybrid is C. × Richmanii are already on record—my readers may adopt them or not as they please—and I consider all the others either synonymous or varieties only; the latter if distinct enough, but I question whether all would stand the test of being grown side by side. The remarks about complimentary names in the vernacular I endorse, except when applied to florists' flowers and according to florists' methods. I note with pleasure the growing feeling against a system which is rapidly bringing our nomenclature into a state of hopeless confusion, and as the *Review* affords a medium for the publication of the results achieved by the hybridist, I hope to see a corresponding improvement in the future.

ARGUS.

CYPRIPEDIUM INSIGNE.

A SERIES of a dozen flowers of Cypripedium insigne has been sent by Mr. J. Coles from the collection of R. H. Measures, Esq., The Woodlands, Streatham, to show the remarkable range of variation in the so-called "montanum" forms introduced by Messrs. F. Sander & Co. some time ago. They are cut from a house containing upwards of a thousand blooms. The numerous fine varieties which have appeared during recent years were enumerated in these pages a year ago (pp. 8-11), when a series somewhat similar to the above came from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury. The present series does not contain any of the named forms previously mentioned, but it shows a wide range of variation both in shape and colour, and especially in the size and arrangement of the spots. One large form has the dorsal sepal 2½ inches broad, and some of the spots in the centre are over ¼-inch in diameter. Another smaller form has numerous quite minute dots on the lower half, a few only along the centre being somewhat broader. A third, smaller still, has the spots quite minute and confined to the base of the sepal, while, in a fourth, they are suffused over the lower half of the same organ as a brownish stain. In another example the spots are large and chiefly arranged along the centre. One rather bright form, in which the petals and lip are rather dark, bears a two-flowered scape,

and of the remainder no two are alike in the size and arrangement of the spots. The ground colour also shows a certain amount of variation. A fine photograph of the house above mentioned has since been sent by Mr. Measures.

Several distinct forms also come from the collection of H. Gurney Aggs, Esq., Pippbrook, Dorking. One is a large flower with the disc of the dorsal sepal regularly covered with numerous small dark spots a sixteenth-of-an-inch in diameter. The white extends scarcely a fourth of the distance from the apex, and the spots at the base are somewhat confluent. This might be called variety punctatissimum. A second is very near the variety radiatum, the markings being arranged in lines, which extend a little beyond the middle, and towards the base are also connected by transverse lines. A third has numerous rather large blotches very regularly arranged, which extend to within half-an-inch of the apex. A fourth variety is distinguished by the pale colour of the spots, which are hardly as numerous as usual and of a light dusky brown. Four others are good, but less distinct spotted forms.

A fine variety called C. i. atratum, very nearly allied to the variety Bohnhofianum, has been sent from the collection of W. M. Appleton, Esq., of Weston-super-Mare. It has a large basal area wholly suffused with bright brown, which, along the centre, almost reaches the white apex. In the last-named variety the green zone surrounding the brown is broader than in the present one, and of uniform width. A very pretty form closely approaching var. Chantini, but more closely spotted, also comes from the same collection.

A very fine light yellow form from the collection of W. Thompson, Esq., Walton Grange, Stone, has been sent by Mr. Stevens. It is almost identical with C. i. Chantini in shape, with the dorsal sepal 2¾ inches broad, but the colour is totally different, as the spots are almost, though not quite, obliterated. Several yellow forms are now known, and this is not quite like anything we remember to have seen.

Mr. A. Dimmock, traveller for Messrs. Sander, writes that the finest collection of Cypripedium insigne in America is that at Rochester, New York, brought together by the late Mr. W. S. Kimball, which includes some truly remarkable forms. A florist in New York grows this species very largely for cut flowers, and has probably the largest collection in the world, and this season will be able to cut ten thousand flowers. It is an excellent plant for this purpose, as the flowers are very durable, lasting almost as long in an ordinary room as when left on the plant. All points considered, it is the best of autumn-flowering species, and the recent importations have given a great impetus to its culture.

NOTICE OF BOOK.

The Orchid Hybrids: Enumeration and Classification of all hybrids of Orchids. By GEORGE HANSEN, Jackson, Amador County, California, 8vo., pp. 257. London, Dulau & Co., Soho Square. Berlin, Friedlænder & Sohn, Carlstrasse.

WE cannot all follow the same vocation. "While one man is engaged to prove the extent of this mundane sphere, another, his neighbour, is planting the potatoes, which serve as his food." Mr. Hansen has both proved his own existence and indicated his vocation—or, at all events, one of them, for he seems to combine the *role* of historian, critic, philosopher, and preacher, all in one, though we can hardly undertake to prove the assertion within the limits of a short notice. For this the reader must go to the book itself. Indeed, we might almost head our remarks with the words, "First notice," were we to attempt a complete review of its contents. Its general character, however, will be readily inferred from the title. The nucleus of the work was collected in 1884, when the author was actively engaged among the subjects of which he treats, and has been continually receiving additions up to the present time, under circumstaces which can easily be imagined when he sorrowfully alludes to himself as one "who has not seen an Orchid for years." The first 75 pages consists of various introductory matters, and the remainder of an enumeration of the various hybrids known, forming altogether an encylopædia of valuable information respecting hybrid Orchids. It is dedicated to Dr. Maxwell T. Masters, F.R.S.

It is to the latter part of the work that one naturally turns for a justification of its existence, and we may at once say that with two rather important exceptions Mr. Hansen has done his work well. Taking Cypripedium, for example (omitting Selenipedium, which is very properly kept separate), we find over seventy pages devoted to it. First comes an alphabetical list of synonyms with their equivalents (this we should have placed at the end): then one of the species used in crossing, with the resulting hybrids: and, finally, a list of the hybrids themselves. As to the information given, we may take the first hybrid raised as an example:—"Calanthe Dominii, Lindl. (Masuca ♀ × furcata). Dominy, for Veitch, Exeter, *G. Ch.*, 1858, i., p. 4. fg. *Bot. Mg.*, t. 5042. Seed obtained 1854, flowered 1856." This is full and concise (though the "1" in *G. C.* reference is unnecessary, and one has to think a moment before discovering that "fg." means "fig."). And this leads us up to our first little grumble. The author in the great majority of cases uses this style of reference:—"*G. Ch.*, Oct. 23, '86" (Cattleya × calummata), "*O. R.*, Oct. '94" (Cattleya × Hardyana). If one wishes to turn up the original information he must

either search through the whole number, or turn to the index, both of which involve a great waste of time, and the latter is not always successful, as we have frequently proved. If a reference is given, the page should always be added. The author says, "My citations vary . . . from the rules of botanists." Let him at once disabuse his mind of this idea. They are only the rules of common sense and convenience.

Our next objection is a strong one, for in his treatment of generic hybrids the author has been particularly unfortunate. He observes :-" I have handled the material on hand without creating any new names." We wish we could congratulate him. On the contrary, all the hybrids between Cattleya and Lælia, which ever since 1887 we have called Lælio-cattleya, are transferred to Catlælia ; Phaio-calanthe becomes Phalanthe (as if a hybrid between Phalænopsis and Calanthe were intended) ; Sophro-cattleya is changed into Sophroleya ; and Zygo-colax into Zygolax. Brasso-cattleya also becomes Brassoleya, and for Epicattleya is substituted Epileya. Epilælia, however, is retained (note how nearly it resembles the preceding word), as are also Epiphronitis, Sophrolælia, and Habenariorchis. The result is over eighty new names, which are absolutely unnecessary, and even misleading. Where, for example, is "Catlælia albanensis, Rolfe," described ? And the same may be said of all the references given, in all of which the plants are mentioned under other names. The author elsewhere remarks, "If a cross has been given the name formed by combining the terms of his parents no matter whether it has been done rightly or wrongly accorded to botanic usage uphold the name . . . do not try and re-christen it." It may be Mr. Hansen's opinion that some of the hybrid generic names might originally have been more abbreviated, but his own remarks should have prevented the perpetration of six new generic, and over eighty new specific, synonyms. But if he must indulge in abbreviation, notwithstanding, why not Epinitis and Haborchis ? And if Lælio-cattleya is too long why stop at Catlælia, when Læleya is so much shorter ? It fits Epileya admirably, and the similarity to Lælia would give no trouble to those who can appreciate the subtle difference between Sobralia and Sobraleya (to be mentioned presently).

Then we get a batch of new names for supposed or reputed generic crosses, as Cysepedium (between Cypripedium and Selenipedium), Epidrobium (Epidendrum and Dendrobium), Odopetalum (Odontoglossum and Zygopetalum), Schombletia (Schomburgkia and Bletia), Sobraleya (Sobralia and Cattleya), Sophrovola (Sophronitis and Brassavola), Zygocidium (Zygopetalum and Oncidium), and Zygodendrum (Zygopetalum and Dendrobium). Respecting the first the author remarks :-" If I propose to order under this combination-name all those attempts at cross-fertilisation of species of the genera Cypripedium and Selenipedium. I do not see why

the fact that not one of all those attempts has ever produced a flowering plant should interfere with my proposal." We take precisely the opposite view, and we think the very facts adduced should have prevented such a proposal ever being made. Names should not be given to commemorate mere "attempts" and some are nothing more, for on flowering one or two of them have proved to be empty traditions. It is only when such plants actually flower that one can be certain that a *bona fide* cross has been effected, and only then should a name be given. Odopetalum is thus justified :-" Seedlings raised by Veitch, of Chelsea, between Zygopetalum Mackayi and several Odontoglossa have turned out to be simple Zyg. Mackayi." Odopetalum is therefore simply Zygopetalum Mackayi. Can anything be more absurd? Some of the other reputed crosses may prove equally apparitional. The author alludes to—"The attack upon momenclature by the French savant who committed the horrible Miltoniopsis (do not let us mention his name)." But we will desist, or we may discover the stick created by Mr. Hansen to beat himself with. We should, however, like to hear the remarks of the French savant when reading these remarkable lines.

The introductory portion contains much interesting matter, together with some that is either personal or that has no relation to the subject matter of the book, and some of this we think would have better indeed, ought to have—been omitted. Some of the points we should like to have alluded to did space permit. One remark, however, we cannot allow to pass unnoticed, and that is where the author, in alluding to the *Orchid Review* in very complimentary terms, makes an assumption with regard to the initiation of that work, for which there is not the slightest foundation, either in substance or fact, but which need not be mentioned further. In conclusion, we may add that apart from the points above mentioned Mr. Hansen has produced a very valuable book, which will be of the greatest service to those who are in any way interested in hybrid Orchids. This, of course, is not endorsing every detail, though we have no desire to detract from the merits of a work which contains so useful a summary of the results attained by the hybridist, we only wish the author had not given us so much to object to. Had he accepted the "advice and guidance" which he alludes to with "pleasure," a good deal of it might have been avoided.

ERIA BIFLORA.

Although described in 1851 (*Griff. Notul.*, iii., p. 302) this singular little species is still very imperfectly known, and it is therefore interesting to note that it has re-appeared in the collection of H. J. Elwes, Esq., of Coles-

bourne, Gloucestershire. It belongs to the section Cylindrolobus, which is characterised by having two or three coloured bracts at the base of the very short racemes. In the present species the bracts are orange-yellow in colour, reflexed, and about three lines long, and the flowers whitish-yellow, and of about the same size. The plant is about six inches high, and each pseudobulb bears several of its short two-flowered racemes. The species has been found both at Mergui, in Tenasserim, and in Sikkim. R. A. R.

CYPRIPEDIUMS WITH IDENTICAL NAMES.

THE beginning of the year 1896 appears a suitable time to place before your readers an "up-to-date" record of those Cypripediums and Selenipediums, which, though differing from each other, have received identical names. I propose to take them alphabetically, offering explanatory remarks as I proceed.

To begin with, there are two Cypripediums named Adonis, both hybrids, one introduced by Messrs. B. S. Williams & Son, parentage C. Spicerianum ♀ × C. × Harrisianum ♂ : the other, generally known as Ingram's variety, was exhibited before the Orchid Committee by C. J. Ingram, Esq., in September, 1893, its parents being hirsutissimum ♀ × Curtisii ♂ (*O. R.*, I., p. 318).

The name album was given by Aiton in 1789 to a North American Cypripedium, and on the 13th August, 1895, C. J. Ingram, Esq., showed a hybrid Selenipedium under the same name raised from S. × leucorrhodum ♀ and S. Schlimii ♂ (*O. R.*, III., p. 287). In this case, one being a Cypripedium and the other a Selenipedium, confusion is hardly likely to arise, although the latter are too frequently described under the name Cypripedium. Mr. Rolfe, too, discards the name album, for the former, restoring the name Reginæ, as given by Walter a year earlier (*O. R.*, I., p. 268).

Cypripedium × Alfred Bleu was described in the *Revue Horticole* as having for parents C. ciliolare ♀ and C. insigne Chantini ♂ (*O. R.*, I., p. 93), while another, C. × Alfred Bleu, with parentage C. × Crossianum ♀ × villosum ♂, appears in the *Gardeners' Chronicle* (1895, i., p. 370). Surely, a mistake of parentage in the latter case.

In the *Orchid Review*, vol. I., p. 328, you will find C. × amabile, raised by M. Alfred Bleu, of Paris, from C. × javanico-superbiens ♀ and C. Hookeræ ♂, while the *Gardeners' Chronicle* (1895, i., p. 370) records C. × amabile (Page) as C. Boxallii ♀ × C. × Dauthieri ♂.

C. × Bellona is a name given by R. I. Measures, Esq., to one of his hybrids, raised from C. villosum ♀ and C. Spicerianum ♂, shown in

November, 1893 (*O. R.*, I., p. 374), and more recently by M. Jules Hye to the cross from C. Spicerianum ♀ and C. × Sallieri Hyeanum ♂ (*Gard. Chron.*, 1895, i., p. 207). This latter hybrid should return to its original name, C. × aureum.

C. × Cecilia was exhibited by Messrs. Sander & Co., 26th Sept., 1893, as raised from C. tonsum ♀ and C. Spicerianum ♂ (*O. R.*, I., p. 350), while another of the same name, but with parentage purpuratum Kimballianum ♀ × Spicerianum ♂ appears in E. Bohnhof's *Dictionnaire des Orchidées Hybrides* (1895), and also in one of Messrs. Charlesworth's Catalogues for the same year.

Are there two distinct C. × Charles Goudoin's? The *Orchid Review* (vol. I., p. 154) quotes one from the *Orchidophile* (November, 1892, p. 337), and records the parents as C. × Harrisianum and C. insigne Chantini, while Mr. Williams, in his *Orchid Growers' Manual* (7th edition, p. 243), gives C. Charles Goudoin —"a cross between C. insigne punctatum violaceum and C. × vernixium." Probably they are the same thing, and the record of parentage doubtful.

C. × Claudii, raised by M. Moens (*O. R.*, II., p. 59), has for its parents C. Spicerianum ♀ and C. × vernixium ♂, but C. × Claudi appears in Mr. E. Bohnhof's book as Spicerianum ♂ × insigne Wallacei ♂.

There seems to be some confusion between the names C. × delicatum and C. × delicatulum. M. Jules Hye appears to have given the former name to a Spicerianum hybrid (*Gard. Chron.*, 1894, II., p. 728), and Messrs. Lewis & Co., of Southgate, inform me that their hybrid exhibited as C. × delicatum on October 14th, 1895, has for its parents C. Dayanum and C. barbatum, Warnerianum. Doubtless this last is identical with C. × delicatulum, Rchb. f.

The name Eurydice seems to have found favour with hybridists, there being no less than three Cypripediums so named. First we have C. × Eurydice, from C. × Leeanum superbum ♂ and hirsutissimum ♂, of M. Ch. Vuylsteke (*O. R.*, II., p. 61) then one of Continental origin from C. Boxallii ♀ and Spicerianum ♂ (*Gard. Chron.*, 1895, i., p. 199), and, lastly, one from C. Hookeræ ♂ and C. Spicerianum ♂, of American origin (*Gard. Chron.*, 1895, i., p. 550).

With Finetianum it is again a case of Cypripedium and Selenipedium, the former being from C. philippinense ♀ and ciliolare ♂, or the reverse cross to C. × Alfred Hollington, the latter from S. × cardinale ♀ and S. caudatum ♂ (*O. R.*, III., p. 102).

C. × Gibezianum appears as venustum ♀ × villosum ♂ according to *Lindenia* (t. 425), and as villosum ♀ × insigne ♂ in the *Gardeners' Chronicle* (1895, i., p. 370). Doubtless the same thing, but with parentage not strictly recorded.

We next come to a Cypripedium and a Selenipedium each named giganteum, the former from C. × Sallieri Hyeanum ♀ and C. × Harrisianum ♂ (*O. R.*, I., p. 316), and the latter from S. caudatum Uropedium ♀ and S. × grande ♂ (*O. R.*, III., p. 77).

The *Journal of the Royal Horticultural Society* (vol. XVII., p. ccxlvi.) records Cypripedium × gloriosum from C. insigne Chantini ♀ and C. × Io grande ♂, and the *Gardeners' Chronicle* (1895, i., p. 200) has one of the same name attributed to Hye from C. Lawrenceanum ♀ and C. × Harrisianum ♂.

Again we come to a name which has been chosen by hybridists in America, on the Continent, and in our own island, viz.: Hebe. Two are in all probability the same, the one recorded in the *Orchid Review* (I., p. 319) as from C. Hookeræ Measuresianum ♀ and C. Lawrenceanum ♂ (*O. R.*, I., p. 319), and that of the *Gardeners' Chronicle* (1894, ii., p. 318), from C. Volonteanum ♀ and C. Lawrenceanum ♂, both coming from R. I. Measures, Esq. The American C. × Hebe is, however, quite distinct, being from C. Spicerianum ♀ and C. Stonei ♂ (*O. R.*, I., p. 119), while that of M. Jules Hye-Leysen is said to be derived from C. Spicerianum and C. × Sallieri (*O. R.*, III., p. 27).

C. × Hera received a First-class Certificate in 1892, being derived from C. × Leeanum ♀ and C. Boxallii ♂, but the name was afterwards changed to C. × Adrastus, under which new name it was Certificated in 1894. A hybrid from C. Spicerianum ♀ and C. villosum ♂, raised in the collection of R. H. Measures, Esq., was previously named C. × Hera by Mr. Rolfe (*Gard. Chron.*, 1890, i., p. 105).

C. × Hermione was the name chosen for my seedling from C. Spicerianum ♀ and C. barbatum Warneri ♂, and the same name was given by M. Jules Hye at a later date to one of his batch of seedlings from C. Spicerianum ♀ and C. × Sallieri Hyeanum ♂ (*Gard. Chron.*, 1895, i., p. 207). With regard to the first, I am content to adopt the nomenclature C. × Eyermanianum var. Hermione (*O. R.*, II., p. 22), while the second should undoubtedly be written C. × aureum, or C. × aureum var. Hermione.

C. × Horneri was raised in the collection of Colonel Marwood from C. Boxallii ♀ and C. Argus ♂ (*O. R.*, vol. II., p. 80), and Messrs. Charlesworth, of Bradford, have in their catalogue for 1895 C. × Horneri from C. Argus × villosum, evidently a mistake, as this is the parentage of C. × vernixium.

I have on my list five Cypripediums and one Selenipedium named × hybridum, and I record them here, although I scarcely think hybridum should be used as a specific name. We have C. × hybridum from villosum ♀ × barbatum ♂ (*Will. Orch. Gro. Man.*, ed. 7, p. 266); C. × hybridum from C. Stonei ♀ and C. barbatum ♂ (*Gard. Chron.*, 1895, i., p. 201); and

three mentioned in Mr. E. Bohnhof's *Dictionnaire* (1895) from C. Boxallii ♀ and C. insigne Chantini ♂, C. Boxallii ♀ and C. Spicerianum ♂, and from C. Haynaldianum ♀ and C. Spicerianum ♂. The Selenipedium is from S. caudatum roseum ♀ and S. × conchiferum ♂, and was raised by Messrs. Sander (*O. R.*, I., p. 326). [Curiously enough, none of these is the original C. × hybridum, figured and described in November, 1875 (*Fl. Mag.*, n. s., t. 187) as a Veitchian hybrid, derived from C. barbatum ♀ and C. Stonei ♂. Soon afterwards it was described under the more suitable name of C. × euryandrum (*Gard. Chron.*, 1875, ii., p. 772), under which it is now known.—ED.]

REGINALD YOUNG.

(To be continued.)

STANHOPEA WARDII VENUSTA.

Two remarkably fine plants of Stanhopea Wardii have flowered in the collection of E. A. Bevers, Esq., of Oxford, of which photographs and flowers have been sent. They belong to Lindley's variety venusta, characterised by uniformly deep orange-yellow flowers, the dark blotches on the hypochil having vanished. The best plant had three racemes, each bearing ten flowers, and the other two racemes with the same number of flowers. A third has also bloomed well. They were purchased last spring at a sale of plants, of the late Mr. Boton, of Tew Park, being turned out of a Vinery with various ordinary plants. If one may judge by their vigour, the situation must have suited them admirably. Stanhopeas are undoubtedly very striking plants, and if well grown very floriferous, though the flowers are unfortunately rather fleeting. They are, however, included in many collections, and deserve a little more attention than they receive at present.

BRASSIA LEWISII.

IT appears that this pretty little species, which flowered with Messrs. W. L. Lewis & Co., in 1893, is a native of the Amazon district, for a Brassia which has flowered in the collection of John W. Arkle, Esq., of West Derby, Liverpool, proves identical, and of this Mr. Arkle states that it was imported from the Rio Negro district with a lot of Cattleya luteola, C. Eldorado, and Galeandra Devoniana. The original record was: "Its exact habitat is not known, but the plants were purchased from a man who collected them when searching for Cattleyas, and who has since died" (*Supra*, I., p. 199). This definite information is very interesting. It is a graceful little plant, and Mr. Arkle remarks that the pseudobulbs are four inches long by one inch broad, and not thicker than a paper-knife.

THE HYBRIDIST.

Lælio-cattleya × Tiresias.

Another pretty little hybrid from Cattleya Bowringiana has appeared in Messrs. Veitch's establishment, of which we have received a two-flowered raceme. The pollen parent was a form of Lælio-cattleya × elegans, and the hybrid is said to be quite intermediate between the two parents. The flower most resembles the seed parent, a peculiarity which is seen in all the hybrids from this species. The sepals and petals are 2¼ inches long, and the latter ⅞-inch broad, the colour being bright rose-purple. The lip is rather closely rolled round the short column, but on being flattened out is seen to be distinctly, though not very strongly, three-lobed. The front half is rich crimson-purple, of a tint closely resembling the pollen parent, and the centre of the disc bears several similar lines, while the base of each side lobe is white. It is a very pretty little plant, and when it becomes strong will probably bear numerous flowers, as is the case with both the parents.

Cypripedium × Amesiæ.

This is a large and very pretty hybrid raised by Mr. W. Robinson, gardener to Mrs. F. L. Ames, from C. tonsum ♀ and C. Fairieanum ♂, from whom we have received a flower through Mr. A. Dimmock, traveller for Messrs. F. Sander & Co., who has just returned from the States. It is quite intermediate in structure, though in colour it most resembles the seed parent. The dorsal sepal is broadly ovate-orbicular, 2¼ inches long by 2 inches broad, and bears about twenty-one narrow purple-brown stripes on a light ground. The petals are deflexed, undulate, 2¼ inches long, and very similar in colour, except that the nerves are less distinct and bear a few small spots on the disc. The lip is most like C. Fairieanum, but 2 inches long, and suffused with light purple-brown; while the staminode most resembles the other parent. It is an interesting addition to the list of C. Fairieanum crosses.

Cypripedium × Calypso var. Armstrongianum.

This very handsome hybrid was raised in the collection of C. Winn, Esq., Selly Hill, Birmingham, from Cypripedium Boxallii atratum ♀ and C. Spicerianum magnificum ♂, and thus is the reverse cross of the original C. × Calypso, which, however, has been several times recorded under different names. The present form has the general shape of the original one, but is markedly different in having the greater part of the dorsal sepal strongly suffused with reddish purple. The rest of the flower most resembles C. Spicerianum, the petals being undulate and much spotted at the base, though darker in colour, the lip also darker, and the staminode

puce-purple, with slightly paler margin and deep yellow centre. It is a very handsome variety.

CYPRIPEDIUM × SYMONDSIÆ.

A very pretty little hybrid from the collection of H. J. Ross, Esq., of Florence, another of the batch which unfortunately lost their labels in the transfer of the Orchids from Castagnola. It is, however, precisely intermediate between C. venustum and C. purpuratum, and, as Mr. Ross very well remarks, is evidently derived from these two species. The dorsal sepals have almost the shape of the latter, but is very little reflexed at the sides, and has about fifteen green nerves on a white ground. The petals well combine the characters of the two parents, being purple with a slightly brownish hue, except at the greenish base, and with numerous dark purple-brown spots on the basal half, as seen in C. purpuratum. They are also neatly ciliate. The lip and staminode also bear much resemblance to C. purpuratum. The characters of C. venustum are apparent enough in the modified details of the flower, and are probably more apparent in the foliage, which we have not seen. It is a very pretty little plant, and is dedicated by request to Miss Margaret Symonds, eldest daughter of Mr. John Addington Symonds.

AN AMATEUR'S NOTES.

THE Calanthes still maintain a good show, though some of the earlier ones are getting over. Cypripedium insigne, too, is past its best, though some of the later ones are still perfect, and the hybrids maintain a good show, C. × Leeanum being one of the most effective. But the plant of the month *par excellence* is Lælia anceps, of which a series of white and several coloured varieties impart quite a gay appearance to the house. A good plant of L. autumnalis and another of L. × Gouldiana are also very effective.

The chaste and beautiful little Masdevallia tovarensis is now coming out, and some of the old scapes, which were not cut off, are flowering as well as the new ones. The fine old Zygopetalum intermedium is expanding, and one of the most striking plants in the house, besides being deliciously fragrant, and of the easiest possible culture. Odontoglossum Rossii and O. pulchellum are now expanding, while quite a number of other things are showing signs of renewed activity. With the gradually lengthening days which will soon be upon us an increasing variety of interesting things will require our attention.

AMATEUR.

CYPRIPEDIUM × SIAMENSE.

THE group figured to-day is a particularly interesting one, representing the natural hybrid Cypripedium × siamense (whose history was given at p. 20 of the last volume), together with its two parents. In 1880 Messrs. Veitch wrote—"No Cypripedium having the aspect of being a natural hybrid between two recognised species has ever yet appeared among importations of the species" (*Man.*, IV., p. 70), but at the present time four such are known, C. × Littleanum and C. × Kimballianum having appeared last year.

C. × SIAMENSE (fig. 1) originally appeared in the collection of R. H. Measures, Esq., of Streatham, in 1888, among plants of the original importation of C. callosum imported by M. Regnier. Reichenbach gave the name C.

Fig 1.—CYPRIPEDIUM × SIAMENSE. Fig 3.—C. APPLETONIANUM.

Fig 2.—C. CALLOSUM.

callosum var. sublæve (*Gard. Chron.*, 1888, i., p. 331), remarking—"It might be supposed to be a natural hybrid, but I do not believe it . . . M. Regnier would have brought the other species." A year later it appeared with M. J. Garden, of Paris, and was independently described under its present name (Rolfe, in *Gard. Chron.*, 1889, i., p. 192), its hybrid origin not then being suspected. Subsequently plants appeared in other collections, generally unexpectedly among C. callosum. The significance of these facts afterwards came out when Messrs. Hugh Low & Co. introduced another species in quantity, together with C. callosum. In 1894 a plant flowered out of this

importation, which Messrs. Low, without knowing its name, considered might be a natural hybrid between the two species in question, and the subsequent identification of this plant with C. siamense put the whole matter in a totally new light. The accompanying illustration is reproduced from a photograph taken by Mr. I'Anson, and shows how well the characters of the two very distinct parents are combined in the hybrid, which is fairly intermediate in character. We may now ask some of our hybridists to demonstrate experimentally what must be obvious to every one. The experiment of crossing these two species together would be at once very simple and very interesting.

C. CALLOSUM (fig. 2) is a well-known plant, introduced from Siam, in 1885, by M. Regnier, of Paris, and was described in the following year (Rchb. f., in *Gard. Chron.*, 1886, ii., p. 326). It is closely allied to C. barbatum and C. Lawrenceanum, but is readily distinguished by its falcate petals, and different foliage.

C. APPLETONIANUM (fig. 3) is the mysterious second parent whose absence probably prevented Reichenbach from guessing the truth about what he called C. callosum var. sublæve, and in any case his remark above cited is suggestive. Its original appearance is uncertain, and it would be interesting to learn whether M. Regnier did not actually obtain it in his original importation of C. callosum. Did no one flower supposed poor forms out of this importation which possibly were thought not to be worth keeping? The earliest record appears to be in 1893, when a plant flowered in the collection of W. M. Appleton, Esq., of Weston-super-Mare, said to have been introduced with C. Hookeræ, from which it was said to differ in the flowers, and in the absence of tessellation in the leaves. It was described as C. Appletonianum (Gower, in *Garden*, 1893, i., p. 95), afterwards becoming C. Bullenianum var. Appletonianum (Rolfe, in *Orch. Rev.*, I., p. 135). It is probable that the recorded origin of this plant is erroneous. At all events it has been introduced in quantity by Messrs. Hugh Low & Co., from Siam, together with C. callosum. C. Poyntzianum (O'Brien, in *Gard. Chron.*, 1894, i, p. 361, which appeared in the collection of Reginald Young, Esq., of Liverpool, is identical, and also appeared among imported plants of C. callosum (*Orch. Rev.*, II., p. 54, III., p. 55). The botanical status of this plant is a little uncertain. The flowers are very similar to those of the Bornean C. Bullenianum, owing to which it was made a variety of it, yet the leaves are remarkably different, and as the new facts show that it is not an aberrant form of C. Bullenianum, as at first supposed, the best course seems to be to consider it a closely allied species, or what is often termed a subspecies. A question of this kind can never be decided without a full knowledge of the facts, and a comparison with the allied forms. The leaves closely resemble C. callosum. The staminode is small, and the incurved

apex of the dorsal is peculiar. The inflorescence is occasionally two-flowered, as in the present example.

Thus the history of this group of plants is particularly interesting, and if the last-named is not of great decorative value it should find a place in all representative collections. C. × siamense most resembles this parent, but the dorsal sepal, especially, is much modified: and it is a more attractive plant. All three usually flower in the winter or early spring.

THE SPOT DISEASE OF ORCHIDS.

A VERY important paper on the above disease, by Mr. G. Massee, of Kew, appears in the last number of the *Annals of Botany* (vol. ix., pp. 421-429, t. 15), in which the vexed question of its origin is set at rest. Allusion was made to the matter at page 130 of our last volume, but it now appears that the disease is not due to a fungus, as was then supposed, but to causes which to a great extent are under the control of the cultivator. The investigation was at first commenced with the preconceived idea that a fungus was the cause of the mischief, but when various experiments had failed to demonstrate its existence a search was made for bacteria, and with like results. Efforts were then made to induce the disease in healthy plants by inoculation with the expressed juice from diseased spots, but with no more success, and this was accepted as evidence that the malady was of non-parasitic origin.

It has often been contended that 'spot' was due to atmospheric conditions, and Mr. Watson now suggested a sudden chilling of the plants as a probable cause. Experiments were therefore made with a view of testing this. A plant of Habenaria Susannæ, perfectly free from spot, which had been growing in a temperature of 75° to 80° F., was covered with a bell-glass, on which cold water from a tap was allowed to flow for twelve hours, during which time the temperature under the glass ranged between 41° and 45° F. Some minute particles of ice on one occasion had first been placed upon the upper surface of the leaves, and on a later one some minute drops of water. Twenty-four hours after the experiment microscopical examination showed that wherever a minute drop of water had been—whether formed by melting of the particle of ice or not—a diseased spot appeared, showing all the microscopic characteristics of true 'spot,' but wherever the leaf remained dry no such damage was observed. These spots were examined at intervals, and within four days every phase of the disease was observed. Additional experiments showed that a fall of at least 9° F. from the previous average was required to induce the formation of 'spot,' and consequently that plants previously grown in a high temperature were the

most susceptible. One other cause of irregularity in the appearance of the spots proved to be the relative amount of moisture in the plants, those saturated with water being much more readily affected than those comparatively dry. These results were corroborated in the garden, both with the Habenaria in question, and with some species of Satyrium, which became affected with 'spot' when a spell of cold weather succeeded the excessively hot weather of the early summer.

The disease first appears in the form of minute pale spots on the upper surface of the leaf, sometimes few and scattered, at others more numerous. At first they are not conspicuous, and likely to escape observation unless specially looked for, but they soon assume a pale brown colour, and gradually increase in size, sometimes becoming confluent. The tissues are completely disorganised, and owing to the collapse of diseased cells beneath the epidermis the surface of the spot becomes somewhat depressed.

Mr. Massee's summary is practically as follows: -The Orchid disease known as 'spot' is of non-parasitic origin, the initial cause being the presence of minute drops of water on the surface of the leaves at a time when the temperature is exceptionally low and the roots copiously supplied with water. The effect of the chill produced by the drops of water under the above conditions is to cause disorganisation of the cells of the leaf underlying the drops, and the disappearance of the chlorophyll, which is followed by the precipitation of tannin and other substances, forming a globular sphere in each cell, and eventually the complete disintegration of the cells. It is mainly caused by the three following conditions: (1) too high a temperature, (2) too much water and not sufficient air in contact with the roots, and (3) watering or spraying with a falling instead of a rising temperature. The plate shows the appearance of the diseased tissues, and the spheres within the cells which were at first mistaken for the vegetative phase of a species of Plasmodiophora.

Thus it would appear that the malady is of a totally different nature to the Vanilla disease (*Supra.*, III., page 51), which is a true parasitic fungus. On the diseased tissue known as 'spot,' a saprophytic fungus is sometimes found, but as it is incapable of obtaining a footing on a healthy leaf it can do no harm.

The moral of the above will be obvious to everyone, and Orchid growers will be grateful to Mr. Massee for the light he has thrown on this much-debated question. It makes all the difference to know whether we have an infectious disease to deal with, or whether it is only a question of maintaining a healthy atmosphere by careful stoking, ventilating, watering, and damping down, especially in the early part of the year. A point now remaining to be settled is whether all the spot-like diseases of Orchids can be assigned to the same cause.

NOVELTIES.

DENDROBIUM CURVIFLORUM, Rolfe. A species belonging to the section Aporum, with unusually large flowers, which flowered with Mr. J. O'Brien in October, 1892. The flowers are white, with a faint suffusion of pink on the back of the sepals, and a yellow line down the centre of the lip, terminating in a deeper blotch in front. They measure 1¾ inches long. It is believed to be a native of Sikkim.—*Kew Bull.*, 1895, p. 281.

CIRRHOPETALUM COMPACTUM, Rolfe. A small species with pale straw-coloured flowers, which bloomed at Kew in September last. It was found at Panga, in Tenasserim, and was sent by Mr. C. Curtis, of the Forest Department, Penang.—*Kew Bull.*, 1895, p. 281.

TRIAS VIRENS, Rolfe. An interesting addition to this singular little gems, whose history is identical with the preceding. The sepals are of a very pale shining green in allusion to which the name is given and the petals and lip are marked with reddish brown. *Kew Bull.*, 1895, p. 282.

COELOGYNE VEITCHII, Rolfe. A native of Western New Guinea, introduced by Messrs. James Veitch and Sons, through their collector, Burke. It received a First-class Certificate from the Royal Horticultural Society in August last. The flowers are pure white, without any markings, and are borne in long pendulous racemes. *Kew Bull.*, 1895, p. 282.

POLYSTACHYA KIRKII, Rolfe. A distinct little plant sent from the Mombasa district by Sir John Kirk. It flowered at Kew in June, 1894, and during the present year. It is allied to P. Lawrenceana, Kranzl., and bears a whitish green flower whose lip is margined with light purple. *Kew Bull.*, 1895, p. 282.

LUDDEMANNIA TRILOBA, Rolfe. A fine species of this remarkable genus, which flowered in the collection of Sir Trevor Lawrence, Bart., in July last, and again in November, on the latter occasion receiving a First-class Certificate. The flowers are deep yellow, with some reddish brown markings at the base of the lip, and a light suffusion of reddish purple on the sepals. It was sent from the Andes by Mr. F. C. Lehmann, and differs from the two previously known in the details of the lip.—*Kew Bull.*, 1895, p. 283: *Gard. Chron.*, 1895, ii. p. 713, fig. 118.

CATASETUM UNCATUM, Rolfe. A species introduced with Cattleya labiata, from Pernambuco, which has flowered in several collections. It is allied to C. albovirens, Rodr., and has bright green flowers, the lip being galeate and half as long as the sepals and petals, and the apex curved. Both sexes have appeared with Messrs. F. Sander & Co. *Kew Bull.*, 1895, p. 283.

CATASETUM APLERUM, Rolfe. A species allied to the Ecuadorean C. macroglossum, Rchb. f., which flowered in the collection of Sir Charles Strickland, Bart., Hildenley, Malton, in September, 1894, and again a year

later. The sepals and petals are light apple-green with a few minute brown spots, and the lip yellowish green, densely spotted and suffused with warm shining brown. Habitat not known.—*Kew Bull.*, 1895, p. 284.

SCELOCHILUS CARINATUS, Rolfe. An interesting little plant, introduced from the Andes by Mr. F. C. Lehmann, and flowered in the collection of Sir Trevor Lawrence, Bart., in September last. The sepals are light yellow, the petals maroon purple with a white margin, and the lip whitish with maroon-purple blotch at the base of the reflexed limb.—*Kew Bull.*, 1895, p. 284.

SACCOLABIUM HAINANENSE, Rolfe. Closely allied to the Himalayan S. gemmatum, Lindl., but with broader flat leaves. It was introduced from Hainan by the Rev. B. C. Henry, and was sent from the Hongkong Botanic Garden to Kew, where it flowered in March last. The petals and dorsal sepal are lilac-purple, and the rest of the flower white.—*Kew Bull.*, 1895, p. 284.

CULTIVATION OF ODONTOGLOSSUMS.

MUCH has been said with regard to the cultivation of Odontoglossum crispum and its varieties; and perhaps a few notes will be acceptable, as to my practice at Arddarroch. We received an importation of 4,000 plants of O. crispum here in April, 1894, and most of them were potted up in a mixture of polypodium-fibre and sphagnum moss in equal proportions, the material being chopped up with a chaff-cutting machine. The larger plants were put into as small pots as convenient for the size of the plants, and the smaller ones placed in a bed of the same material. They were placed in a house facing north and south, the former being placed on an open stage, well up to the glass, which I find a great advantage to all Orchids, especially Odontoglossums. At first they were watered very sparingly, only receiving a thorough soaking once in four weeks, but were syringed over-head on fine days until the pots were filled with roots: afterwards only receiving water when thoroughly dry. Under this treatment I find they thrive satisfactorily.

As regards the potting of established plants, I do not bind myself to any hard and fast rule. I like to pot a plant when it needs potting, but just after it commences to grow: as it is then sending forth its new roots. September and October I find the most suitable months for this operation, as it is then when most of the plants are starting to grow, and they then have time to establish themselves before the hot sun appears. I do not believe in potting Odontoglossums in spring, for I find that disturbing them at the roots at that time of the year is hurtful to the plants, as they have no time to get re-established before the hot weather sets in. The material I find best for established plants is good peat and sphagnum moss in equal pro-

portions, mixed in the above way. Polypodium fibre is all very well for imported plants, but for established plants I perfer good peat.

After being potted they are very carefully watered: giving them a thorough good soaking, and no more until quite dry. I find over-watering very injurious to these plants, especially after potting, and during the winter months, when, the outside atmosphere being damp, they do not dry up the same as in summer time, when more air and light is given. At that time they need a good supply at the roots, and a thorough good soaking is given on each occasion. Feeding with manure is a thing I do not practice, as I **have found it no advantage.**

Damping down is done very carefully, and during the winter months it is ceased altogether: as I find the watering of the plants gives sufficient moisture until watering time comes round again, which is in about four or five days. During the summer time they get a thorough damping down each morning, except on wet days when the outside air is charged with moisture, and on hot days they are doused over-head about two p.m. with "Stott's fertilizing sprayer," which I find a very useful thing in Orchid houses.

I give plenty of air, both top and bottom, during the summer, both night and day, and in winter our bottom ventilators are seldom closed, except in severe weather, when the cold wind is blowing strong, and on a very mild day the top ones are open too. I find Odonto-**glossums enjoy plenty of air.**

In regard to shading, we use the ordinary tiffany blinds on rollers. We commence to shade about the middle of February, but as the season advances the ordinary tiffany is not sufficient to keep the temperature down on hot sunny days, and I like to put a good coating of white-wash on the glass about the beginning of June, leaving the roller blinds up a little later in the morning and drawing them up a little earlier in the afternoon. This whitening is washed off again in September, after which the blinds give sufficient shade until they are taken off at the end of October. As to the lath blinds which are in use on the Continent and other places, I have not given them sufficient trial to form any definite opinion; having only tried them at the end of last season. I think, however, that they will prove to be **a great acquisition.**

As regards temperature, I try in summer time to keep as near to 60° Fahr. as possible in the day-time, allowing it at night to fall to 55°, but in winter-time 55° by day, and 50° at night, excepting on severe nights, when I do not mind it falling down to 45°, providing the atmosphere is kept dry.

Odontoglossums are subject to a good many pests, the worst being yellow thrip; but I have no difficulty in keeping it down by the frequent use of "Campbell's fumigators," which I have used for the last three years. For the last two years we have not had a single thrip on any of our plants,

of which we grow about 20,000, but before using "Campbell" they gave great trouble. I have often seen another pest in the form of a fungus, which attacks the under part of the leaves and turns them yellow, but the frequent use of "Veitch's Chelsea blight," applied with a sponge, keeps it down.

A mixture of soot and lime thrown about the house once a month, I have proved a great help.

Failure in the growing of Odontoglossums in my opinion is due to over-watering, too much moisture in the atmosphere during cold weather, and not sufficient shading in summer.

G. ROBERTS.

Arddarroch, Gareloch Head, N.B.

CALENDAR OF OPERATIONS FOR JANUARY.

By H. A. BURBERRY, Highbury, Moor Green, Birmingham.

WE have now entered upon another year, and let us hope a most successful one to Orchid cultivators, to the *Orchid Review*, to importers and collectors, and, in fact, to all interested in the Orchid world.

The temperatures should be allowed to remain as advised for last month, namely :—

THE COOL HOUSE.—Day, with sun, 60° ; without sun, 50° to 55° ; night, 50° ; morning, 45° to 50°.

THE INTERMEDIATE HOUSES.—Day, with sun, 65° to 70° ; without sun, 60° ; night, 58° to 60° ; morning, 55° to 58°.

THE WARM HOUSE.—Day, with sun, 70° to 75° ; without sun, 65° to 70° ; night, 60° to 65° ; morning, 60°.

Attend well to the atmospheric conditions of each department, as it is a most important matter, especially at this time of year, when the outside conditions are often so variable. Observe that the degree of warmth indicated above is maintained as nearly as possible, and use these figures as a guide. It is not possible, of course, to always do so exactly, nor is it absolutely necessary. The thermometer will fluctuate a few degrees, higher or lower, and this will do no harm ; in fact, it occurs in a state of nature.

Do not let the atmosphere become too moist or stagnant, and, on the other hand, avoid excessive drought. When much fire heat is required, the air, and the plants also, are apt to become too dry if not watched, and the tendency counteracted by a judicious application of water to the roots and about the house. Generally speaking, once a day will suffice for damping down this month, but on certain mild damp days it will be better not to do so at all. Where the hygrometer is in use it should show from one to two degrees of evaporation in the coolest houses before damping the paths, and in the other departments two or three degrees.

Let it be borne in mind that spot, rot, and other forms of decay are likely to supervene if the conditions are too wet, and at the same time cold, therefore avoid such conditions if possible. I use the latter phrase advisedly, for well do I know that in spite of the utmost endeavours of the most painstaking persons, it is not always possible to steer quite clear of those unsuitable conditions which favour the development of disease in some form or another. There are many details in management which may appear to be trifling matters, but which, notwithstanding, claim the attention of the most careful cultivators, and often, too, at hours when most of the world is asleep. It is a great thing to know the exact cause of spot, and the conditions which induce it, but it is no easy matter to escape it altogether. The best safeguards are to have houses built and heated on the most approved principles, coupled with strict and never-failing attention. Drip from the roof, sudden falls of temperature, and water on the leaves in **cold weather must be studiously avoided.**

The question regarding ventilation at this season is rather a delicate one, which must not be spoken of at random. Everything will depend upon the structure of the house. It can safely be said that if there are spaces through which the air can pass, through the over-lapping glass not fitting closely, or by any other means, the ventilators will scarcely be in request this month: in fact there is a likelihood at times of having too much air without them. If, on the other hand, the houses are closely built, it is frequently advantageous to admit air through the bottom ventilators, in a larger or smaller volume according to the mildness of the weather. The top ventilators should also be used in the Cool house on the leeward side when the outside temperature is not below 45°, maintaining warmth in the pipes to temper the fresh air and to produce a better circulation. Fresh air is the life and soul of these plants, but be careful just now, especially when leaving for the night, for the weather is apt to change suddenly before morning—and it is better not to have too much even of a good thing.

At this season we may perhaps just review the successes and failures of the year just passed. Each year has its lessons, and something will have been learnt and added to our experience. I can safely say that I have had another proof of the truth of the old saying that we should leave well alone. It came about by removing our Phalænopses from their accustomed place, but the result was not satisfactory, and they are now re-instated in their little hot, span-roofed house. The same thing is now unavoidably happening to the Barkerias, which, owing to building operations, were removed from their sunny position in a lean-to, and their appearance is not so smart as formerly. Barkerias will only grow well when suspended fully exposed to the sun and syringed copiously when growing, but at this resting season they should be kept very dry. We never could get Miltonia spectab-

ilis and M. s. Moreliana to grow freely and look happy until they were transferred to the East Indian house, which proves to be the best place for them. We have still many conquests to make. For example, Oncidium Phalænopsis—a sweetly neat and pretty species does not grow well, and if any kind friend would say how to succeed with it, he would not only have my best thanks, but I believe of many other readers of the *Orchid Review* likewise. It happens sometimes that the proper cultivation of a certain species is discovered more by accident than design. If a plant which has proved difficult to cultivate should suddenly improve, the differences between the old and the new treatment should be noted, and further experiments followed. A few, or more, plants in delicate health are to be found in every collection, and the cause often is that some simple want is either not understood or not attended to. If the former, the best method is to find out, if possible, the right place and the proper treatment for such plants, and then they may recover and grow strong. Proofs are not wanting that the simple open woodwork staging is to be preferred to that which is closely constructed, and the air thus prevented from circulating freely between and round the plants. Of course, with open stages a little more time is spent in damping down, and the plants also dry more quickly, but I think most growers will agree with me that an Orchid, to grow well, **must necessarily dry quickly.**

The chief work this month will be to keep the plants healthy, by giving them as much light as possible, by keeping the temperature and atmosphere as genial and pure as circumstances will admit, and by paying great attention to cleanliness, and freeing the plants from the numerous pests to which they are liable. In other words, I may say the best work to do is to maintain intact the vigour which the plants already possess, and be content. We must not expect free growth in these short dark days when the internal atmosphere, do what we will, is more or less vitiated, and it is a great mistake to try to force it, either by repotting or an over exciting temperature. **Many Orchids should now be at rest.**

Speaking of repotting, there are a few which may now be proceeded with. The first are the Pleiones, which have passed out of bloom. These should never go longer than two years without being done. They may be grown in pots, or suspended in shallow pans, but success is most likely to be attained with the latter, as Pleiones are very partial to an abundance of light. Employ a mixture of chopped sphagnum moss and peat, well mixed in equal proportions, and add a little loam and silver sand. In this compost plant the bulbs taking great care not to injure the new roots leaving about an inch space between each bulb, and securing them in their position firmly by means of small pegs. When finished the bulbs should be half below and half above the compost. The receptacles should be crocked

with clean broken pots, so as to leave room for about two inches of compost, which is sufficient. Do not over water, but keep the compost just moist only, and give them an intermediate temperature.

There will also be a few of the Cypripediums which may be repotted or top-dressed as the case may demand. I refer to the late autumn and winter flowering kinds which have passed out of bloom. The compost recommended above for Pleiones is also most suitable for these. Cypripediums should be repotted once in two or three years, or oftener, supposing they become pot-bound. The pots—and nothing is better—must not be too large, but just a reasonable size in proportion to the size of the plants. They must be quite clean, and crocked to one-half their depth with clean drainage. If the pots are large they are better crocked higher in proportion. Always place a layer of clean sphagnum over the drainage before filling in with the compost, which should be pressed in moderately firm, without breaking the roots, finally leaving the surface even and slightly raised above the rim of the pot. Should the plant then be in the least unsteady it should be firmly supported with neat sticks, otherwise the roots are prevented from taking a grip of the new material. Keep the compost just moist only until the new roots are showing activity.

Masdevallias may also be repotted now. This is one of the best times, as a new batch of roots are pushing forth, which will delight in new compost, and the plants will soon become re-established. Peat and sphagnum moss in equal proportions suit them best. See that they are made quite steady, and water very carefully for a time. Cold and a damp atmosphere produces black marks on the leaves, which is most unsightly, and spoils the handsome foliage. A temperature ranging between 50° and 60° is best, it should not fall below 50° if possible.

Repotting Orchids, as is well known, cannot be done with impunity, as when done it must be done thoroughly, whereby every root is disturbed, and this, as may be expected, always gives a check to growth for a longer or shorter period: the former if performed at the wrong time, and the latter if at the right, which in most cases is when the plant is finished blooming, and again commences to grow. Therefore it is a matter of great importance to catch each plant at the right time. Top-dressing, however, is quite different in this respect, as it is not in the least necessary to disturb the roots by so doing. All that is required is to carefully prick off the old surface, and replace with clean and fresh material, which not only gives a much smarter appearance, but is very beneficial, as the sweet compost about the roots seems to impart renewed vigour. Such plants as will not need repotting during the coming season may accordingly be top-dressed at the earliest convenient opportunity, which will save a good deal of time later on, when there is less to spare. Odontoglossums and Oncidiums may be

done, likewise Aërides, Vandas, Saccolabiums, Phalænopses, and some others.

Disas having been watered very sparingly during the winter, and occupying a Cool house averaging about 50°, and a position near a ventilator so as to receive an abundance of air, will now commence to shew signs of growing more freely. Still continue to keep them moderately moist only at the roots, until the days lengthen and more air can be given, when water must be applied in larger quantities. The best time to repot Disas is immediately after they have passed out of bloom in August. The compost should be sandy peat surfaced with sphagnum moss.

The flower sheaths of some Cattleyas will occasionally lose their greenness and become quite dry long ere the flower spike is due. This fact often occasions uneasiness on the part of the cultivator, who imagines that the flower spike is already doomed, or will be unable to push itself up when the time comes round. No fear, however, need be entertained in that direction, as the spike, if the sheath is not interfered with, will come just the same. Should the fleshy sheath, however, turn pulpy just at the time the flower spike is pushing up, then it is better to cut off its top, so as to admit the air to the young tender flower buds, otherwise they sometimes decay.

I am extremely sorry to learn from several quarters that the Cattleya fly is still plentiful. So far as I am aware it is quite useless to fumigate with a view of killing it. I have heard of a house of Cattleyas being fumigated every night with tobacco paper for twelve months, which had not the slightest effect upon the fly. I have often wondered how the Cattleyas looked at the expiration of the twelve months. Possibly the new "XL All fumigating insecticide" might kill them, but I strongly suspect that they are too securely hidden away from its fumes. There would be no harm in trying it at intervals, and especially so with newly-imported specimens, for then, before they are potted, the fumes could thoroughly penetrate the mass and possibly have the desired effect. Having no fly here to deal with, I have had no occasion to try the above method. The only way that I know at present of stamping out this much-to-be-dreaded pest is by destroying its larvæ, and for the benefit of new subscribers I may here repeat previous instructions.

Its existence may be detected when the young break or growth is about an inch high, as it becomes abnormally thick at the base and tapers somewhat more to a point than usual, the growth afterwards making but little progress. When such growths are observed they should be cut off, and, ten to one, in its centre the young grub will be found in a more or less advanced stage. If destroyed in this way an effectual check to their breeding is attained, and much harm to the plants prevented. Should an infested growth be overlooked, and the insect come to maturity, a great

amount of damage will be done for another year. When buying newly imported Cattleyas look well into them and search for imperfect pseudo-bulbs and examine them closely to see if the fly has been the cause of the mischief, and if so, a hole will be found somewhere near the base of the crippled growth, from whence the fly escaped on reaching maturity. It does not follow that the plant is still affected, but it is probably so, and should be kept under strict surveillance.

ORCHID PORTRAITS.

BARTHOLINA PECTINATA, R. Br.—*Bot. Mag.*, t. 7450.

CATASETUM CHRISTYANUM, Rchb. f.—*Gard. Chron.*, Nov. 23, pp. 617, 618, fig. 104.

CATTLEYA × MANTINI.—*Journ. of Hort.*, Nov. 28, p. 503, fig. 76.

CYMBIDIUM LONGIFOLIUM.—*Gard. Mag.*, Dec. 7, p. 783, with fig.

CYPRIPEDIUM × MARCHIONESS OF SALISBURY.—*Journ. of Hort.*, Dec. 5, p. 527, fig. 79.

DENDROBIUM TREACHERIANUM, Rchb. f.—*Journ. of Hort.*, Dec. 19, p. 571, fig. 87.

LUEDDEMANNIA TRILOBA, Rolfe.—*Gard. Chron.*, Dec. 14, p. 713, fig. 118.

MILTONIA VEXILLARIA.—*Gard. Chron.*, Dec. 21, p. 743, fig. 125.

SELENIPEDIUM × DALLEANUM, André.—*Rev. Hort.*, Dec., p. 548, fig. 180, and plate.

TRICHOPILIA BREVIS, Rolfe.—*Gard. Chron.*, Nov. 30, p. 641, fig. 105.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

At the Royal Horticultural Society's meeting at the Drill Hall, James Street, Westminster, on November 26th last, Orchids were exhibited in rather smaller numbers than usual, though several interesting things were shown.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), received an Award of Merit for the fine hybrid Cypripedium × platycolor, raised from C. concolor and C. Stonei platytænium. It bore an inflorescence of three flowers and one bud, cream white flushed with rose, and with numerous minute purple dots on the sepals and petals. He also received a Botanical Certificate for Arundina chinensis (A. Philippii).

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr. Mr. Johnson), received an Award of Merit for a fine variety of Cattleya Dowiana called marantina, in which the petals were a good deal marbled with rose, and the

sepals somewhat suffused with a coppery tint. He also sent Cypripedium × plumosum (C. barbatum × C. × œnanthum superbum).

G. E. Palmer, Esq., Springfield, Trowbridge (gr. Mr. Richman), received an Award of Merit for the pretty hybrid Cypripedium × Madeline (C. bellatulum × C. Argus), with yellowish white flowers tinged with lilac and spotted with purple. He also sent C. × Seegerianum, C. × Dibdin, and others.

F. W. Moore, Esq., Royal Botanic Garden, Glasnevin, received an Award of Merit for Masdevallia Chimæra aurea a form with large patches of yellow on the lateral sepals, and a Botanical Certificate for a fine form of Calanthe versicolor, Lindl. He also sent Odontoglossum præstans and the fine yellow Phaius Blumei Bernaysii.

S. Clark, Esq., Oak Alyn, Wrexham, sent a fine form of Cattleya Trianæ, with crimson feathered mark on the petals.

The Marchioness of Londonderry, Plas Court, N. Wales (gr. Mr. Gribble), sent Lælia anceps.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), showed Cypripedium × warnhamense.

T. W. Swinburne, Esq., Corndean Hall, Winchcombe, sent Cypripedium × Wallaertianum (C. × Harrisianum × C. villosum).

J. W. Temple, Esq., Leyswood, Groombridge (gr. Mr. Bristowe), sent a pretty hybrid Cattleya called C. × Miss Williams (C. Harrisoniana × C. Gaskelliana), with rosy lilac flower and a crimson blotch on the lip: also a fine form of Cattleya labiata.

Sir F. Wigan, Clare Lawn, East Sheen (gr. Mr. Young), sent fine cut spikes of Barkeria Lindleyana and Lælio-cattleya × William Murray.

Messrs. Veitch & Sons, Chelsea, exhibited Epidendrum × Wallisio-ciliare, together with its two parents, E. ciliare ♀ and E. Wallisii ♂, the hybrid obtaining an Award of Merit. They also received a Botanical Certificate for the singular but brilliantly-coloured Dendrobium subclausum, Rolfe.

Messrs. F. Sander & Co., St. Albans, received a Silver Banksian Medal for a fine group, including a fine series of hybrid Calanthes, as C. × bella, C. × Bryan, C. × Olive, C. × Florence, C. × Harold, and C. × William Murray. Also the handsome Pescatorea Lehmanni, P. Klabochorum, Bollea Schrœderiana, Aganisia ionoptera, Brassia Lewisii, Miltonia Schrœderiana, Odontoglossum bictoniense album, Sophronitis grandiflora, Lælia autumnalis alba, Habenaria Susannæ, Eonia polystachya, Dendrobium × Leeanum, Bulbophyllum crassipes, some fine hybrid Cypripediums, Phaio-calanthe × Arnoldiana, and P.-c. × Berryana, the latter an interesting hybrid derived from Phaius Humblotii ♀ and Calanthe Masuca ♂, with bright rose-coloured flowers intermediate in shape.

Messrs. Hugh Low & Co., Upper Clapton, sent several interesting plants, including the rare and handsome Oncidium × hæmatochilum, Phalænopsis × intermedia Porteri, some hybrid Cypripediums, &c.

Messrs. Linden, L'Horticulture Internationale, Brussels, showed Cattleya maxima, and the handsome Catasetum × splendens imperiale, a First-class Certificate being awarded to the latter.

The last meeting of the year was held on December 10th, when a good number of interesting exhibits were staged.

The President, Sir Trevor Lawrence, Burford, Dorking (gr. Mr. White), sent a fine specimen of the rare Dendrobium Treacherianum, bearing three racemes and twenty-three flowers, to which both a First-class Certificate and a Cultural Commendation were given. A noble specimen of Angræcum pertusum, with eighteen racemes, also received both a Botanical Certificate and a Cultural Commendation. Masdevallia macrura also received an Award of Merit, while Mormodes Lawrenceanum and Masdevallia pachyura both gained Botanical Certificates. Other exhibits were Bulbophyllum grandiflorum, Dendrobium Cœlogyne and Lælia rubescens, with its white variety.

Baron Sir H. Schroder, The Dell, Egham (gr. Mr. Ballantine), sent a very fine collection of cut Cypripediums, representing sixty different kinds, to which a Silver Banksian Medal was awarded. Among the more striking ones were C. insigne Sanderæ, and C. i. Sanderiana, C. × T. B. Haywood, and a fine variety of the same, C. × Arthurianum, C. × Mrs. Canham, &c. The rare Cœlogyne Arthuriana was also sent.

J. T. Bennett-Poe, Esq., Holmewood, Cheshunt, received a Silver Banksian Medal for a very pretty group, including a number of beautiful Calanthes, a very fine form of Lycaste Skinneri, a form of Lælia autumnalis with white side lobes to the lip, and a fine plant of Vanda cœrulea with richly-coloured flowers, to which latter a Cultural Commendation was awarded.

De Barri Crawshay, Esq., exhibited a fine form of Oncidium tigrinum, to which an Award of Merit was given.

G. S. Ball, Esq., sent a particularly good Cattleya labiata alba, Cypripedium insigne Sanderæ, and another charming yellow form, with traces of purple spots on the dorsal sepal, called C. i. Ballianum.

F. W. Moore, Esq., Royal Botanic Garden, Glasnevin, sent Oncidium pictum.

T. Statter, Esq., Stand Hall, Whitefield, sent Lælio-cattleya × Tresederiana, a good form of L.-c. × elegans, and several fine Cypripediums, including C. × Leeanum superbum, C. × L. giganteum, C. × plumosum, C. × Niobe, C. × Ariadne, &c.

T. W. Swinburne, Esq., Corndean Hall, Winchcombe, sent a pretty

little group of Cypripediums, including C. × Swinburnei, C. × S. magnificum, C. Spicerianum with ten flowers, fine forms of C. insigne and C. × Leeanum, C. × Indra, and C. × Lady Hutt.

H. Tate, Esq., Allerton Beeches, Liverpool, again sent the remarkable form of Cypripedium insigne in which the upper and lower sepals are alike in size and colouring. It appeared in one of Messrs. Sander's importations in 1892, and is evidently permanent.

W. C. Walker, Esq., Percy Lodge, Winchmore Hill (gr. Mr. Cragg), sent Oncidinm prætextum, Lælia rubescens, and Cypripedium Charlesworthii with curiously twisted sepals.

Messrs. James Veitch & Sons, Chelsea, staged a choice group, to which a Silver Flora Medal was given. It included Cymbidium Traceyanum, Lælio-cattleya × Pallas, L.-c. × Lady Rothschild, a fine hybrid from Lælia Perrinii ♀ and Cattleya Warscewiczii ♂, the pure white Calanthe × Harrisii, raised from C. vestita Turneri and C. × Veitchii, and others. The two latter hybrids each received an Award of Merit.

Messrs. F. Sander & Co., St. Albans, received a Silver Banksian Medal for a good group, including a number of fine Calanthes and Cypripediums, Odontoglossum nevadense, O. × Wilckeanum, O. × aspersum, Helcia sanguinolenta, Phaio-calanthe × Arnoldiana, and others.

Messrs. W. L. Lewis & Co., Southgate, received an Award of Merit for a fine hybrid Cypripedium called C. × Ashtom, derived from C. ciliolare ♀ and C. × selligerum majus ♂.

Messrs. Hugh Low & Co., Upper Clapton, sent a good group, including Cycnoches chlorochilon, two good forms of Cymbidium giganteum, and others.

Messrs. B. S. Williams & Son, Upper Holloway, included a good group of Cypripediums, in which C. × Pitcherianum and others were conspicuous.

CORRESPONDENCE, &c.

W. E. L., Wimbledon. The small pale form of Sophronitis grandiflora is probably undeveloped, especially being the first bloom on an imported plant. Next year it may be different. Lælia præstans, and not absolutely synonymous with L. pumila, though closely allied. Eulophia pulchra. Dendrobium linguiforme is an Australian species with small white flowers, which should be grown on a block and treated like other Australian species. Odontoglossum Hunnewellianum, small.

A. M. B., N. Devon. Cypripedium Victoria-Mariæ.

G. H., California. There seems no reason to suppose that Cypripedium Stonei platytænium is a natural hybrid. It is probably an abnormal peloriate condition of the species, though it seems difficult to explain the cause of the peculiarity. On one occasion one petal of a flower reverted back to the normal form.

W. J. R., Maghull. Many thanks.

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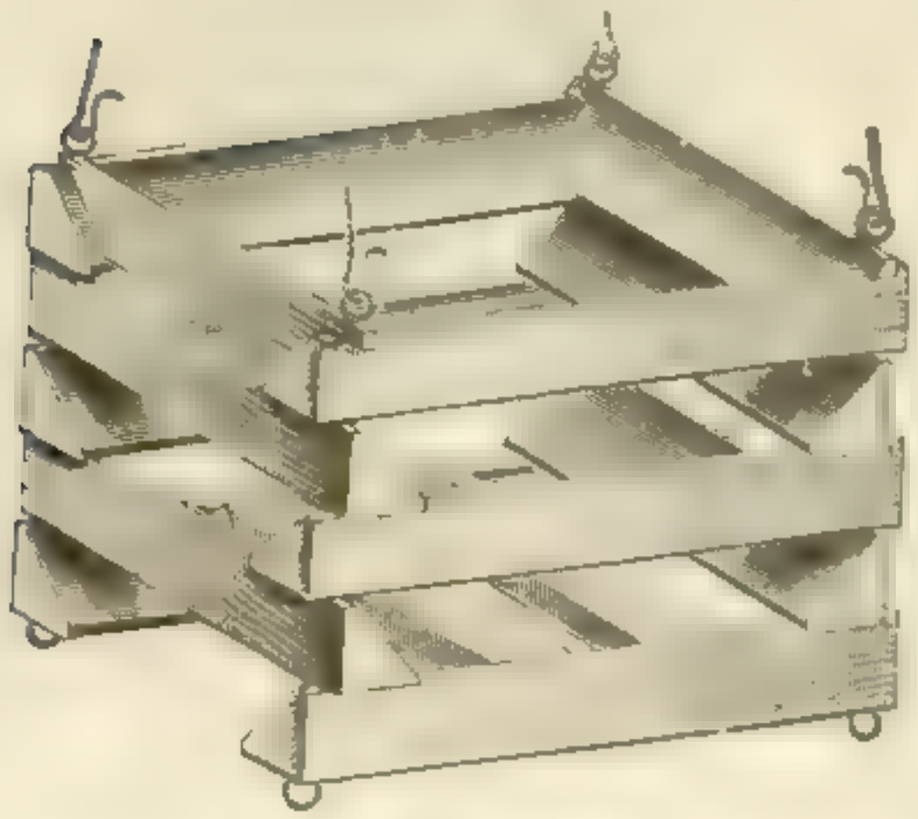

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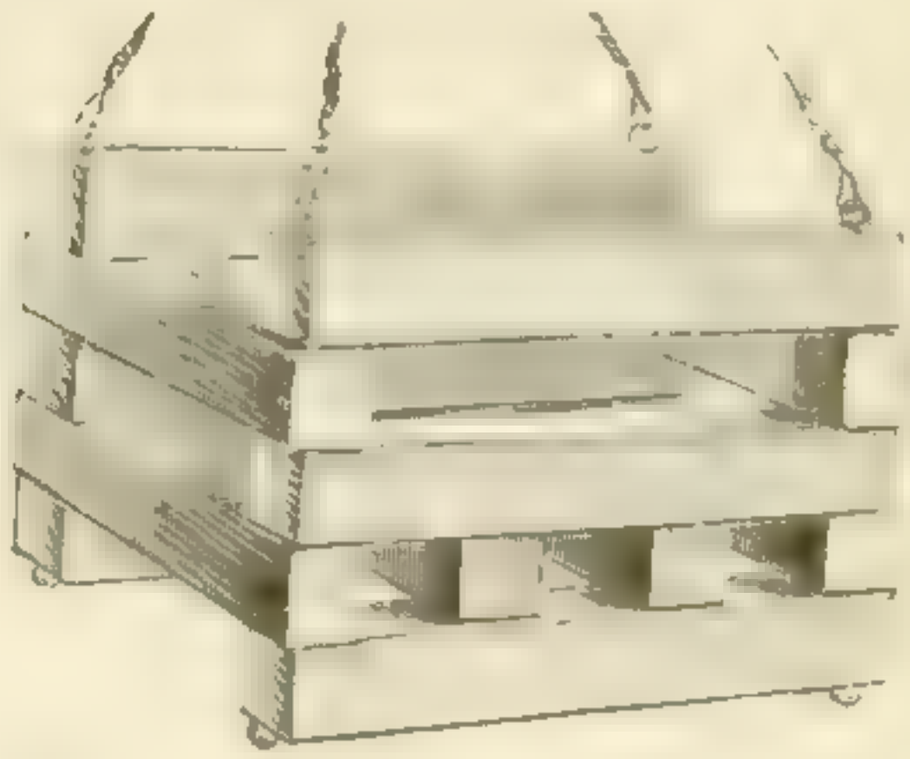

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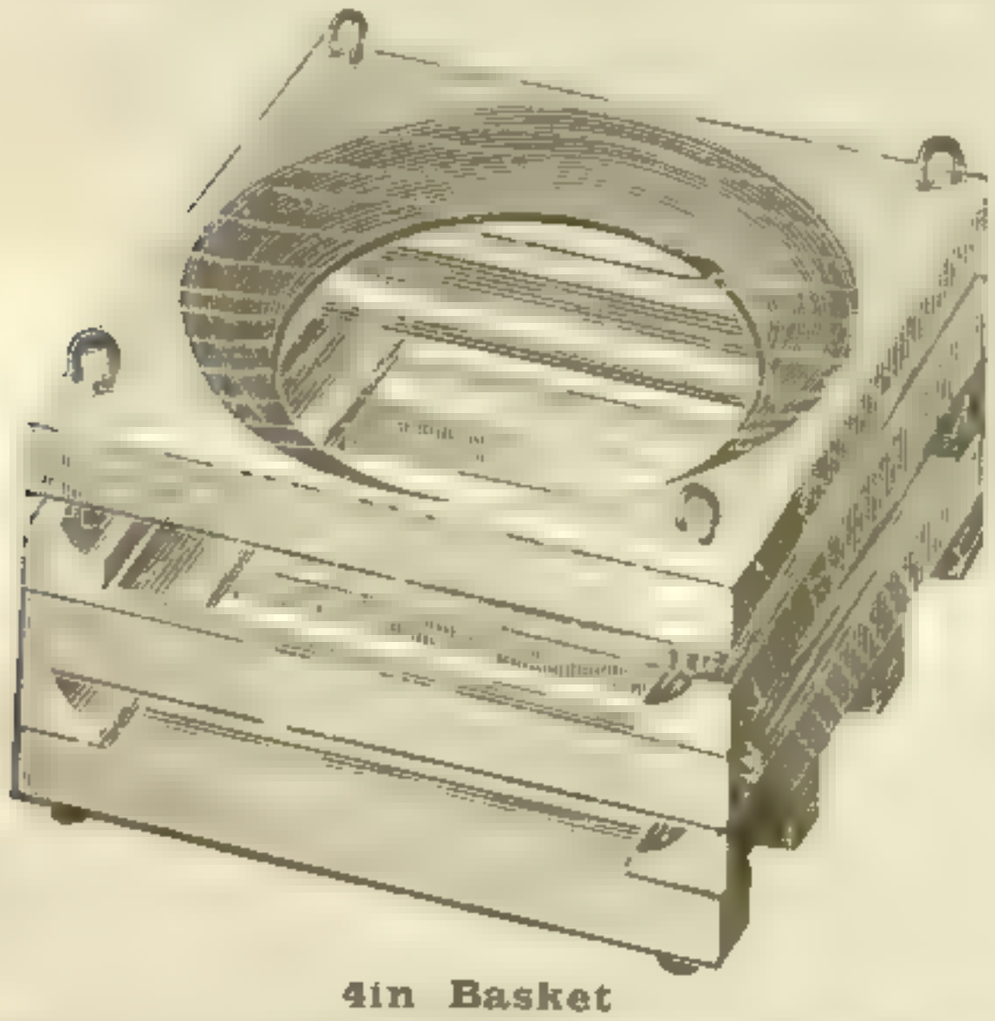

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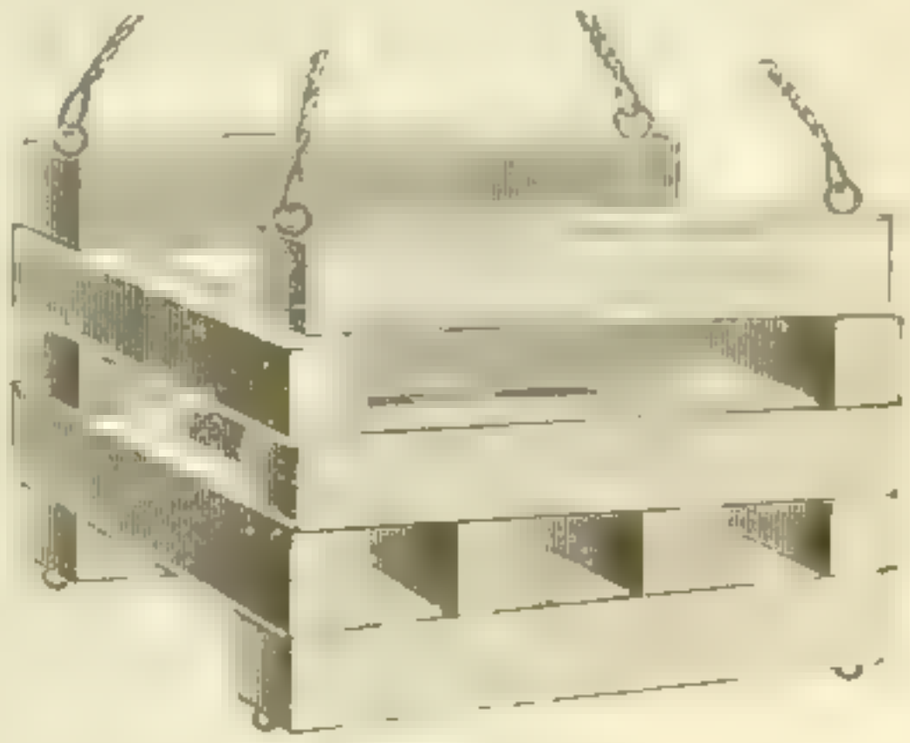

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Vol. IV.] FEBRUARY, 1896. [No. 38.

THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. IV.] *FEBRUARY*, 1896. [No. 38.

NOTES.

THE next meeting of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, on February 11th, when the Orchid Committee will meet at the usual hour of twelve o'clock, noon. The Annual General Meeting of the Society is held at 3 p.m., at 117 Victoria Street, for **the election of Council, Officers, Fellows, &c.**

With the hope of encouraging individual effort and original research, the Council of the R.H.S. offer medals, silver or silver gilt, according to merit, for the following (amongst others):

(1) The best introduced Orchid not previously shown at any of the Society's meetings. Two classes—one for *Amateurs*, the other *Open*.

(2) The best hybrid Orchid, raised and shown by an Amateur, with record of parentage, &c., not previously shown at any of the Society's **meetings.—*Amateurs*.**

(3) The best Orchid raised in this country, with record of parentage, &c., not previously shown at any of the Society's meetings. *Open*.

The above Special Prizes may be competed for at any meeting of the Society in 1896, except at the Temple and Crystal Palace Shows. The judging will be by points which will be duly kept and recorded, and the winner will be announced at the end of the season. All entries for the above must be made before 11.30 a.m. on the morning of the show, on a *special form*, which may be obtained of the Clerk at the table. As many details **as possible should be given about the exhibits.**

A flower of the pretty little Sopralælia × læta, which was described at page 333 of our second volume, has been sent by Messrs. James Veitch & Sons. It was derived from Lælia pumila Dayana ♀ and Sophronitis

grandiflora ♂, and the flower is about intermediate between them, both in shape and colour. A similar remark may be made about the plant itself, according to a note from Mr. Seden, who, it is hardly necessary to add, is the raiser.

Flowers of the beautiful Dendrobium × cnosmum virginale, and of Cattleya × Pheidona are also enclosed, both of which have been previously recorded in these pages. The latter is the reverse cross of C. × Domminiana, of which it may be considered a marked variety, differing in its beautifully veined lip, in which respect it shows the influence of the pollen parent, C. maxima.

A fine form of Odontoglossum crispum, sent by Messrs. Charlesworth & Co., has very broad sepals and petals, which makes the flower almost a complete circle. The petals are pure white, but the sepals and lip have a few reddish purple blotches in the centre.

At a meeting of the Linnean Society, held on December 19th, Mr. R. A. Rolfe, A.L.S., gave an abstract of a paper entitled "A Revision of the genus Vanilla," in which fifty species were enumerated, seventeen being new, including five previously confused with older forms. They were described as tall forest climbers, some of them leafless, generally of rather local distribution, though the genus was found almost throughout the tropics. Tropical America could boast 29 species, against 11 in Asia, and 10 in Africa. Six American species yield an aromatic fruit, and three are known in commerce, though only the Mexican V. planifolia was largely cultivated as an economic plant. The author outlined the morphology and mode of fertilisation of the genus, together with its affinities and geographical distribution. Some of the species were still imperfectly known, and it was even now uncertain which was the Peruvian plant mentioned by Humboldt eighty years ago as yielding aromatic fruits. The paper was illustrated by a series of drawings.

A beautiful form of Cattleya Trianæ has been sent by John S. Moss, Esq., of Bishops Waltham, the segments being broad and well shaped, and the colour bright rose-purple, with a darker front lobe to the lip, and a bright orange-yellow throat. It approaches the variety Atalanta.

A leaf of Cypripedium × Symondsiæ, described at page 16, is now sent from the collection of H. J. Ross, Esq., and, as suspected, shows a distinct combination of the characters of C. venustum and C. purpuratum, the characteristic markings of the former being especially prominent on the upper surface, though somewhat modified by the influence of the other parent.

A series of articles on "Natural Hybrid Orchids," by Mr. R. A. Rolfe, is commenced in the *Gardeners' Chronicle* for January 25th, from which it appears that as long ago as 1878 Vistam had called attention to the probable hybrid origin of Orchis × suaveolens, now known as Nigritella × suaveolens. Phalænopsis × intermedia was the first recognised hybrid among tropical Orchids, and Lindley correctly indicated its origin and parentage in 1853, before any artificially raised hybrid had flowered.

Catasetum × splendens punctatissimum, described at page 85 of our last volume, is characterised by having the petals densely covered with minute reddish-brown dots on a yellowish ground. A similar form has appeared in the establishment of Mr. W. Bull, of Chelsea, except that the minute dots extend round the limb of the galeate lip.

A good form of Cypripedium × Williamsianum comes from the collection of F. M. Burton, Esq., of Gainsborough. It is derived from C. villosum ♀ and C. venustum ♂, and was exhibited at a meeting of the R. H. S. on February 12th, 1895, under the name of C. × refulgens (*Gard. Chron.*, 1895, i., p. 210). It most resembles the former parent. A second plant of the same name is a synonym of C. × Adonis, and owing to the identity of name the present one has also been confounded with this (*Hansen Orch. Hyb.*, p. 131).

A very curious flower of Cypripedium Boxallii from the collection of Reginald Young, Esq., Sefton Park, Liverpool, has almost all the usual purple-brown absent from the lip, while the petals and dorsal sepal are typical in colour. A good ordinary form is sent with it. Messrs. Hurst & Son, Burbage Nurseries, Hinckley, also sends the latter, together with a fine flower of C. B. atratum, in which the dorsal sepal is very large and very richly coloured.

ANGRÆCUM BISTORTUM.

A PLANT of this singular little species (*supra* I., p. 178) has appeared in the collection of E. H. Woodall, Esq., of Scarborough. Mr. Woodall remarks that it branches freely from the lower part of the stem, making quite a pretty plant when in full flower. It is a native of Lagos, and originally flowered at Kew in January, 1892. Its great peculiarity is the way the tip of the spur usually remains tucked into the axil of the bract, thus compelling the spur to double up into a loop as it elongates. This, however, is not invariably the case, for if the spur frees itself it then becomes straight, and the question is which is the normal condition.

R. A. R.

DIES ORCHIDIANÆ.

An interesting experiment is being made by the Royal Horticultural Society in offering a series of special prizes for new plants of 1896, "with the hope of encouraging individual effort and original research." Among other things, Medals are offered for the best introduced Orchid and for the best home-raised seedling, both in open classes and in others limited to amateurs. The competition will be of a novel character, as it is to extend throughout the year, with the exception of the Temple and Crystal Palace shows, and "the judging is to be by points, which will be duly kept and recorded, and the winners will be announced at the end of the season." I also note that "as many details as possible should be given about the exhibits, as fulness and exactitude of information may decide the prize in case of equality of points": but "the Committee reserve the right to withhold all or any of the prizes if none of the exhibits are considered worthy of marked honour." The classes are not necessarily limited to novelties of 1896, as the only limitation is that the plants shall not have been previously exhibited at any of the Society's meetings.

I am rather interested in this novel competition, and shall keep an eye open for future developments. The word "New," for example, is mentioned in the conditions, and it will be interesting to observe how the term is defined. With respect to introduced Orchids, will it be limited to *bona-fide* new species, or will varieties of well-known garden plants be also admitted? And in the latter case, especially, what steps will be taken to ensure that they are really new? The point is an important one, judging by recent developments. With respect to hybrids, is the competition to be limited to *bona-fide* new crosses, or will varieties of existing hybrids be also eligible? To put it in another way, Is the competition still open to further crosses between C. barbatum and C. bellatulum, which have already received Certificates? The point is an important one. The rules drawn up by the Society's Nomenclature Committee some few years ago probably cover some of these points, and it will be interesting to note whether they are enforced or otherwise. These rules have not always been observed, as I have more than once had to point out, but in a competition of this kind no such laxity should be allowed, and I would suggest that exhibits not staged in accordance with these rules should be disqualified. I shall doubtless recur to this subject as occasion arises.

A correspondent again calls my attention to Cypripedium × Marchioness of Salisbury, and as it has a distinct bearing on the above question I may quote his remarks. "How is it," he asks, "that the Orchid Committee

should have recognised this name, and awarded a First-class Certificate, when they changed the name of another plant of identical parentage from C. × Météore to C. × Charles Richman before granting a similar award?" I am unable to answer this very pertinent question, but it is satisfactory to note that others beside *Dykes* have their eyes on this question.

Last month I called attention to some remarks of a correspondent of the *Garden*, commending the principle of considering all hybrids from the same two species as forms of one, and now the *Gardeners' Magazine* also endorses the same idea, remarking that it is a great pity that this system is not generally followed in naming hybrid Orchids, instead of the many confusing names given to the numerous seedlings produced from identical parentage. And, by way of illustration, it alludes to Cypripedium × Charles Richman, raised from C. barbatum and C. bellatulum, as having been before the Orchid Committee on four different occasions, each time under different names. The *Orchid Review* has adopted this view from the outset, and with such a growing concensus of opinion in its favour, some improvement must inevitably result.

CYPRIPEDIUMS WITH IDENTICAL NAMES.

(*Continued from page 14.*)

The name Juno occurs first as a species from the Philippine Islands (*R. H. Measures' List*, May, 1890, and again as a hybrid from C. Fairieanum ♀ and C. callosum ♂), according to the Royal Horticultural Society's List of Plants Certificated, but the reverse cross as given in the *Orchid Review* (I., p. 327).

The name Kimballianum also appears both as a species and as a hybrid. As a species it should be written C. præstans Kimballianum, but the prefix is too frequently omitted. The hybrid is C. × Kimballianum, in all probability derived from C. Rothschildianum ♀ and C. Dayanum ♂ (*O. R.*, III., p. 271).

W. R. Lee, Esq., showed C. × Leo at the Drill Hall, 10th January, 1894 (*Gard. Chron.*, 1894, i., p. 84), the parentage being doubtful, but believed to be a cross between C. Spicerianum and C. villosum, while in a Catalogue of Messrs. Protheroe & Morris, 24th September, 1895, C. × Leo is offered, with parentage C. × Wallaertianum ♀ × insigne Chantini ♂.

Messrs. Sander used the name C. × Macfarlanei for their hybrid derived from C. × calophyllum ♀ and C. Spicerianum ♂ (*O. R.*, I., p. 326), and Messrs. W. L. Lewis & Co. named the cross from C. Lowii ♀ and C. Lawrenceanum ♂ C. × Macfarlaneanum, but seeing the probability of confusion by its similarity to the first-named, they promptly changed the

name to C. × Patersoni. Mons. A. de Lairesse, in his Catalogue, No. 4, quotes C. × MacFarlanei as from C. callosum × Spicerianum.

C. × miniatum was the name given by M. Jules Hye to his pretty hybrid C. Spicerianum ♀ × C. Fairieanum ♂, the same parentage as C. Niobe (*O. R.*, I., p. 371), and according to the *Garden*, 19th January, 1895, and the *Gardeners' Chronicle* (1895, i. p. 109). Messrs. Sander have given the same name to a hybrid from C. Curtisii ♀ and C. insigne ♂.

The parentage of C. × Northumbrian is recorded in the *Orchid Review* (vol. I., p. 294) as C. calophyllum ♀ × insigne Maulei ♂, and Messrs. Charlesworth, in their 1895 Catalogue, mention C. × Northumbrian as **from C. calophyllum ♀ and C. × Lathamianum ♂.**

C. × Phœbe is the name chosen by F. Statter, Esq., for his hybrid from C. philippinense ♀ and C. bellatulum ♂ (*O. R.*, III., p. 127), and Mons. A. de Lairesse in his Catalogue, No. 4, quotes C. × Phœbe from C. **calophyllum ♀ and C. × vexillarium ♂.**

Two hybrid Cypripediums have been exhibited under the name of C. × Roberti, one from C. hirsutissimum ♀ and C. villosum ♂, is C. × Germinyanum (*O. R.*, II., p. 93), the other from C. hirsutissimum ♀ and C. insigne Wallacei ♂, is a variety of C. × Mendes (*O. R.*, II., p. 374).

C. × Sappho, from C. Lowii ♀ and C. barbatum ♂, is recorded as a Veitchian hybrid in the *Gardeners' Chronicle* (1895, i., p. 200), while Messrs. Charlesworth, of Heaton, Bradford, have in their 1895 Catalogue C. × **Sappho from C. Lowii ♀ and C. superbiens ♂.**

C. × Savageanum from C. × Harrisianum ♀ and C. Spicerianum ♂ (*O. R.*, I. p. 228), was raised by Messrs. Seeger & Tropp; but there is a second C. × Savageanum recorded in the *Gardeners' Chronicle* (1895, i., p. 370), with parentage C. × œnanthum superbum ♀ × Spicerianum ♂.

C. × Sirius, from barbatum Crossii ♀ and C. Godefroyæ ♂, was exhibited by Messrs. James Veitch & Sons, on the 13th December, 1894 (*O. R.*, III., p. 32), while another hybrid also bearing the name C. × Sirius is recorded in the *Gardeners' Chronicle* (1895, i., p. 200), with parentage C. hirsutissimum ♀ × Spicerianum ♂.

The name Venus has been given to both a Cypripedium and a Selenipedium. The former is C. × Venus from C. niveum ♀ and C. insigne Sanderæ ♂, and appears in the *Gardeners' Chronicle* 1895, i., p. 200, the latter S. × Venus from S. × albanense ♀ and S. Boissierianum ♂. This has been referred as a variety of S. × Brysa (*O. R.*, III., p. 77).

A Cypripedium × Vesta, from C. × Harrisianum ♀ and C. Spicerianum ♂, is recorded in the *Gardeners' Chronicle* (19th January, 1895), and another shortly afterwards from C. Spicerianum ♀ and C. × plumerum ♂ **(1895, i., p. 201).**

C. × Wendlandianum, from C. × œnanthum and C. venustum,

appears in a catalogue of Messrs. Sander & Co., and C. × Wendlandianum from C. × vernixum ♀ and C. × Harrisianum ♂, in one issued by Messrs. Charlesworth.

REGINALD YOUNG.

CYPRIPEDIUM × SIAMENSE.

We note with pleasure that the experiment suggested at page 18 of our last issue, of proving the origin of this plant by crossing Cypripedium callosum and C. Appletonianum together, has been made in the collection of Reginald Young, Esq., of Sefton Park, Liverpool, and we shall await the result with great interest. Mr. Young, fortunately, had both species in flower, and at once made the experiment.

THE HYBRIDIST.

LÆLIO-CATTLEYA × GHISLAINIÆ.

A photograph and coloured sketch of a very pretty and most interesting hybrid has been sent by M. A. Van Imschoot, of Mont-St.-Amand, Gand. It was obtained by crossing Lælia harpophylla with the pollen of Cattleya amethystoglossa, the seed being sown in 1889, producing a single plant only, which has now flowered. It distinctly combines the characters of the two parents, though the influence of the Lælia preponderates, especially in the vegetative organs. The pseudobulbs are much stouter than in the mother plant, and bear a single oblong leaf. The inflorescence at present is two-flowered. The sepals and petals are linear-lanceolate in shape, and cream-yellow in colour, with a few traces of minute rosy dots derived from C. amethystoglossa. The side lobes of the lip are closely wrapped round the column, and the front lobe spathulate-obovate, and veined with reddish-crimson from near the apex down into the throat, the ground colour being cream-yellow. The influence of the pollen parent is chiefly seen in the modification of the various organs and in the colour of the flower. It is a very promising thing, and will probably improve as the plant becomes stronger.

CYPRIPEDIUM × ORPHEUS VAR. YOUNGIANUM.

A fine flower of a hybrid Cypripedium derived from C. callosum ♀ and C. venustum ♂ has been received from the collection of Reginald Young, Esq., of Sefton Park, Liverpool. It is the reverse cross of the one called C. × Orpheus, which was raised by Messrs. Sander, but is sufficiently distinct to deserve a varietal name. The dorsal sepal is broadly ovate-orbicular, nearly two inches long, and with about 19 to 21 light green nerves on a white ground. The petals are 2½ inches long, nearly straight,

bright green near base, passing to reddish-purple towards the apex, strongly ciliate, and with five wart-like spots on each upper margin and two or three on the lower ones. The lip has almost the shape of C. venustum, and bears a trace of the characteristic markings of that parent on a light purple-brown ground. The staminode is rather more like C. callosum. The influence of the pollen parent is strongly marked in the colour of the dorsal sepal, as well as in the shape of the lip.

LYCASTE × SCHŒNBRUNNENSIS.

We have received a flower of a seedling Lycaste from the collection of G. S. Ball, Esq., Earlscliff, Bowden, Cheshire, which is believed to have resulted from a cross between L. Skinneri and L. macrophylla Measuresiana. It is remarkably like L. × schœnbrunnensis, described at page 51 of our first volume, though it may not have arisen from the same parentage. The second parent of that is a little doubtful. It was at first thought to be L. gigantea, but failing to see evidence of this in the hybrid, and thinking L. Schilleriana (which we have seen confused with it) more likely, we suggested it as possibly the other parent. We should like to be able to compare the two hybrids again, for they certainly bear a good deal of resemblance to each other, having the sepals and petals strongly suffused with rose-pink, of a glaucous hue, and the lip covered with minute crimson dots. The above identification may be regarded as provisional only.

CYPRIPEDIUM × ENFIELDENSE VAR. SUFFUSUM.

The original Cypripedium × enfieldense was raised in the collection of A. J. Hollington, Esq., of Enfield, by Mr. Ayling, from C. Lawrenceanum ♀ and C. Hookeræ ♂. The same cross was made in the collection of F. M. Burton, Esq., of Gainsborough, and on flowering received the name of C. × suffusum. A flower has now been sent by Mr. Burton, which shows that it chiefly differs from the original in having the dorsal sepal almost suffused throughout with reddish purple, and the petals more nearly approaching C. Hookeræ in shape and colour. Another of the seedlings also sent shows more of the influence of C. Lawrenceanum in the flower, and is nearer the original C. × enfieldense, thus showing that variation which is so often observed among seedlings out of the same capsule. The leaves are very strongly tessellated, as in both parents, and all the forms are very handsome. The variety suffusum, however, is much more richly coloured than the other, and thus deserves a varietal name by which to distinguish it. The scapes are rather tall, as in both parents. By some mistake the parentage of this plant was given at page 375 of our first volume as C. Lowii ♀ × C. Hookeræ ♂.

DENDROBIUMS FROM BURY.

A SERIES of beautiful Dendrobium flowers has been sent from the collection of O. O. Wrigley, Esq., Bury, to show the kinds now in bloom. They include D. crassinode, D. Findlayanum, the handsome natural hybrid D. crassinodi-Wardianum (also known as D. × melanopthalmum), seven forms of D. nobile, and a very pretty seedling from the same whose history is not stated, but which is apparently D. × Ainsworthii roseum. Among the forms of D. nobile are several mentioned in the account given in our last volume (pp. 147-150), together with one we do not remember to have met with before, called D. n. Rajah. It is much like D. n. albiflorum (*supra*, II., pp. 113, 115, fig. 12), but instead of the segments being pure white they are lightly flushed with delicate pink, giving a very pretty effect. The sepals and petals are slightly shorter and broader, but the lip convolute in the same way.

A seedling Cypripedium, believed to be from C. × œnanthum and a form of C. × Harrisianum (possibly Dauthieri) is also enclosed. It is evidently a form of C. × Crossii, but less richly coloured, and at present smaller, though possibly not yet fully developed.

— — —

A HYBRIDIST'S NOTES.

VITALITY OF POLLEN.

IT is currently believed that Orchid pollen retains its vitality for a long time after removal from the flower, but few actual experiments seem to be on record.

With Lælias and Cattleyas I have had four pods of good seed from pollen removed from the flowers two weeks and more previously—namely, L. Perrinii × C. labiata, plus L.-c. elegans alba, 14 days; C. Gaskelliana × intermedia, 17 days; C. Percivaliana × velutina, 18 days; L. purpurata × C. intermedia, 30 days; L. grandis × C. intermedia, 33 days. At the same time I have failed in thirty trials with pollen 15 to 30 days old, in twenty-seven trials at 30 to 60 days; and fourteen trials 60 to 100 days.

Will not some of our expert hybridists give as many instances as possible of good pods from pollen used three weeks or more after removal from the flower, and let us know if any particular conditions—as to dryness, darkness, and ventilation, or the reverse—seem to be of importance in keeping the pollen alive. I have generally used paper packets, in a small tin box, and found no advantage in enclosing the pollen in nearly air-tight gelatine capsules till ready to use it.

PERIOD OF RIPENING OF SEED.

I note a great difference in the time required to ripen seed-pods, according to the species of pollen made use of. It seems to tend towards a mean

between the normal ripening time of the two parents, as shown in the examples given below.

I cannot give the average time for each species *with its own pollen*, not having experimented in this line sufficiently. The average given is that of all my own crosses, and hence is apt to be too high for the quick-ripening kinds and too low for the slow ones: but it will illustrate the point made. Only good pods have been considered those containing at least some thousands of plump seeds.

The seed parent is given in the left-hand column, and the pollen parent in the middle, each being followed by the average period of ripening of uncrossed capsules (where this is known), stated in months. The right-hand column shows the actual period of ripening of the hybridised capsules, in some cases three examples being recorded: —

SEED PARENT.	POLLEN PARENT.		HYBRID CAPSULE.
C. Trianæ .. 11½ m.	C. amethystoglossa	4½ m.	8½ m.
,, ,, ,,	,, labiata	12½ m.	13¼ m.
,, ,, ,,	,, Lueddemanniana ...	?	14½ m.
,, ,, ,,	,, luteola	9 m.	9¾, 10, 10½ m.
,, ,, ,,	,, Percivaliana ...	13 m.	15 m.
,, ,, ,,	,, Schrœderæ... ...	14 m.	14 m.
,, ,, ,,	,, Walkeriana ...	?	11½ m.
,, ,, ,,	L. anceps	5¼ m.	7½, 9½, 9½ m.
,, ,, ,,	,, Dayana	?	14 m.
,, Percivaliana 13 m.	,, harpophylla + flava	7¼ m.	13½ m.
,, ,, ,,	C. luteola	9 m.	16½ m.
,, ,, ,,	,, Trianæ	11½ m.	14½, 15½, 17 m.
,, ,, ,,	,, velutina	?	9¾ m.
,, ,, ,,	L. anceps	5¼ m.	9¼ m.

The soonest maturing pods, so far, have been of Bletia verecunda × Schomburgkia tibicinis, 7½ weeks, and the same × L. purpurata, 6 weeks. The former seed began to germinate in considerable numbers, but was then lost; of the latter, I have one odd-looking plant a tiny bulb growing out of the top of another of equal size the lower one bearing root-fibres and the upper one a minute leaf. The seed was planted six months ago.

THEODORE L. MEAD.

Oviedo, Florida, U.S.A.,
January 13th, 1896.

[These remarks are very interesting, and we hope others will be induced to send us their experiences. What is the real meaning of the variation in the periods of ripening between crossed and uncrossed capsules seems at present doubtful, and we only see three cases in which the period of ripen-

ing of the latter is fairly midway between that of the two parents. These are C. Trianæ crossed with amethystoglossa, with luteola, and with L. anceps; and C. Percivaliana × L. anceps. In five others the period is longer than that of either parent—in some considerably so—from which it is evident that further observations are necessary. The four cases in which the period of maturing of the pollen parent is unknown cannot be cited either way. Further experiments might explain away some of these apparent discrepancies. The seedling Bletia verecunda × Lælia purpurata we shall hope to hear of again. We would suggest that a number of flowers of some common species should be crossed with different things at the same time, and the results recorded. We should be glad if Mr. Mead will kindly explain the phrases "L. Perrinii × C. labiata plus L.-c. elegans alba" and "C. Trianæ × L. harpophylla + flava," which we fail to understand.—ED.]

NOVELTIES.

CIRRHOPETALUM ROTHSCHILDIANUM, O'Brien.—A very fine species which was exhibited by the Hon. Walter Rothschild at a meeting of the Royal Horticultural Society, on October 15th last, and received a First-class Certificate. It is allied to C. ornatissimum and C. Collettii, but has larger flowers with much longer tails, and the prevailing colour crimson-purple with some yellow markings. It is believed to be a native of the hills beyond Darjeeling. *Gard. Chron.*, Nov. 23, 1895, pp. 608, 609, fig. 102.

LELIA × FINCKENIANA VAR. SCHRODERÆ.—A beautiful variety, which appeared in the collection of Baron Sir H. Schroder, the Dell, Egham, and said to differ from the original type in having a few thin purple lines at the base of the lip only, the rest of the flower being pure white. O'Brien in *Gard. Chron.*, Dec. 28, p. 762.

EPIDENDRUM BARBEYANUM, Kranzl.—A species bearing umbels of large green flowers, nearly two inches in diameter, much like those of E. latilabre, Lindl. It is a native of Costa Rica, and flowered in the collection of M. W. Barbey, of Chambesy, Geneva.—*Bull. Herb. Boiss.*, III., p. 607.

RODRIGUEZIA INCONSPICUA, Kranzl.—A Costa Rican plant, with very small whitish flowers, which flowered in the same collection as the preceding. The author refers Lindley's Trichocentrum candidum to it as a synonym, but it does not bear the slightest resemblance to it, either in habit or character, that plant being a true Trichocentrum in every respect, except that the spur is nearly obsolete.—*Bull. Herb. Boiss.*, III., p. 630, t. 18.

THE CATTLEYA FLY.

A short time ago we received some pseudobulbs of Cattleya labiata from a collection in North Devon, which were badly affected with the Cattleya fly, and now others come from Tynemouth; also some of C. Trianæ. The plants were purchased from comparatively recent importations, and it is probable that the pest was thus introduced. Various measures have been tried to exterminate the pest, such as regular weekly fumigations, washing the plants with fir-tree oil, and cutting out and burning infected parts, but without getting rid of it. The plants are otherwise healthy. It is difficult to know what remedies to apply other than those already suggested (*supra*, III., pp. 183, 215, and 288), and a better knowledge of the habits of the insect would be useful. Smoking is manifestly useless, except when the perfect insect comes out, for the larvæ are perfectly protected by the enveloping tissues of the plant, and the same may be said for washing with fir-tree oil. Slight fumigations will kill the perfect insect, and if the time of its appearance were known these could be given nightly, if necessary, during this period. Cutting off and burning the affected parts, but in some cases this would mean mutilating the plant considerably. One young pseudobulb sent, for example, shows no less than five small circular holes where perfect insects have emerged, though otherwise there is very little to show the presence of the enemy, and only a person who has had experience of the insect would have previously detected it. Yet when the holes are seen, the insect has gone, and is probably laying eggs elsewhere for a renewal of the evil. Cutting off and burning this pseudobulb would have done no good, for, on making sections, the cavities where the larvæ lived are all found to be empty. On the other hand, the bulb and leaf, though a little damaged, are still capable of carrying on the nutrition of the plant. Another shows an external swelling, but no hole, and in this the white larvæ are found within the cavity. In this case burning would have been effectual. If such a swelling were punctured with an awl, and then a little fir-tree oil injected by means of a sprayer, with a slender metal tube, which could be inserted in the hole, the larvæ would be killed without sacrificing the pseudobulb and leaf: but the question remains whether the presence of the enemy could always be detected in time. It would appear that if the eggs are laid in the very young growths they soon become swollen, and the presence of the enemy is soon manifest: but if the pseudobulb is already well formed, the mischief is not so easily detected. The eggs are also laid in the young roots, when a gall-like swelling quickly appears, which can be cut off with comparatively little damage to the plant.

The insect is known as Isosoma Orchideatum, and we have collected together what little information seems to be on record respecting it for a future note. Meantime, we should be glad if those who are troubled with

it would relate their experience. It would be interesting to know in what way it most attacks the plants, what time the perfect insect emerges, if more than one brood a year occurs, and especially any measures which have been successful in stamping out this troublesome pest. A knowledge of its habits would be of material service in battling with it.

CULTIVATION OF CYPRIPEDIUM BELLATULUM AND ITS ALLIES.

I do not think that any hard and fast rule can be laid down as to the best way of growing Cypripedium bellatulum and kindred species, but as someone has been kind enough to say that I "grow bellatulum and its allies really well," I will state as briefly as possible the course of treatment adopted by my gardener, Mr. T. J. Poyntz. First, as to potting material, a mixture of loam, nodules of limestone, and old mortar rubble is used, peat and sphagnum moss being dispensed with altogether, which compost seems to suit these plants admirably; and as Cypripedums concolor, Godefroyæ, and niveum are all reported as having been found on limestone rocks, this treatment appears reasonable enough. With regard to watering, Mr. Poyntz has recourse to dipping—that is, he dips the baskets and pots in which the plants are growing, so that the water just comes up to the base of the leaves, and this is only done occasionally, when the material has become excessively dry. Water getting into the axils of the leaves is so destructive to this particular class of Cypripedium that he abstains entirely from watering overhead. I am aware that this method of supplying them with water is not according to nature, as they could not be so supplied in their native habitat, but there they are not covered with a glass roof, and probably the sun and air soon dries up the moisture deposited on the plants by rain showers.

Cypripediums concolor, Godefroyæ, and niveum all do best with me in a stove temperature, on that side of the house away from the direct rays of the sun: and the way in which a plant of Cypripedium Godefroyæ has flowered regularly with me since 1888, the way a Cypripedium concolor has recovered from almost death and become a sturdy plant, and the general appearance of my Cypripedium niveums, all bear testimony to the efficacy of this treatment. Cypripedium bellatulum does better with me in a cooler house, the plants I tried in the stove having by no means the vigorous appearance of those growing in an intermediate temperature.

REGINALD YOUNG.

ORCHIDS OF 1895.

A CONSIDERABLE number of novelties either flowered or were described for the first time during 1895, both of species and hybrids, and if each succeeding year diminishes the chances of discovering showy garden plants among the former, this is fully counterbalanced by the steady progress attending the efforts of the hybridist, whose achievements during recent years have been remarkable in many respects.

Among introduced species we may commence with the remarkable Bulbophyllum grandiflorum from New Guinea, long known to science, which flowered for the first time in cultivation in March last, in the collection of Sir Trevor Lawrence, Bart. Dendrobium speciosissimum, now described for the first time, is a remarkable Bornean species, allied to D. formosum, which was discovered by Sir Hugh Low on his ascent of Mt. Kina Balu in 1851, and has now been introduced both by Messrs. Hugh Low & Co. and by Messrs. Sander, both of whom also flowered it. Dendrobium sanguineum, introduced by Messrs. Low from Labuan, is remarkable for its crimson flowers, which, unfortunately, are rather short-lived. Cirrhopetalum Rothschildianum, the finest species in the genus, flowered in the collection of the Hon. Walter Rothschild, at Tring Park. Cœlogyne Veitchiana is a species with pendulous racemes of pure white flowers, introduced by Messrs. James Veitch & Sons. Lueddemannia triloba is one of Lehmann's introductions, which flowered in the collection of Sir Trevor Lawrence, Bart., as is also Odontoglossum aspidorhinum. Cypripedium × Littleanum is a remarkable natural hybrid, which flowered in the collection of H. Little, Esq., of Twickenham, and was figured and described in these pages. Cymbidium × Kimballianum is a reputed natural hybrid which appeared with Messrs. Sander. Bollea Schrœderiana also appeared with Messrs. Sander, as did Angræcum Eichlerianum, A. stylosum, Batemania peruviana, Lycaste Dyeriana, Maxillaria Mooreana, and some others. Dendrobium velutinum and Cryptophoranthus oblongifolius flowered with Messrs. Charlesworth & Co., Trias disciflora, Dendrobium inflatum, and some additional varieties of Catasetum × splendens with Messrs. Linden, and the remarkable Luisia Cantharis with Messrs. Hugh Low & Co.

Several interesting botanical novelties flowered at Kew, as Catasetum Lemosii, Bulbophyllum pteriphilum, Ornithidium nanum, Angræcum Smithii, Pleurothallis rotundifolia, and Eulophia deflexa. Lanium Berkeleyi flowered with Major-General Berkeley, Oncidium panduratum with Welbore S. Ellis, Esq., Maxillaria parva with C. Ingram, Esq., and Cirrhopetalum gracillimum with T. R. Jarvis, Esq., of Chelmsford. Megaclinium Imschootianum and Sarcochilus crassifolius flowered with M. A. Van

Imschoot, of Ghent: Notylia brevis and Cirrhopetalum Whitei with Sir Trevor Lawrence, Bart.: Polystachya villosa, Cryptophoranthus minutus, Sarcanthus auriculatus, and three species of Cirrhopetalum, with Mr. J. O'Brien. Some of these had flowered on previous occasions, but were now described for the first time.

Varieties of well-known species are continually appearing, the most remarkable of last year being the beautiful Cypripedium bellatulum album, which flowered in the collection of Sir Frederick Wigan. The distinct buff-yellow variety of C. insigne called Laura Kimball, from the Kimball collection, may also be mentioned, while various others have been recorded in our pages from time to time, which we have not space to enumerate.

Turning to the hybrids we find a rather extensive list, and here again we can only enumerate the more interesting and remarkable of the numerous forms which have appeared. The prize for the best hybrid of the year was secured by N. C. Cookson, Esq., with Phaius × Cooksonæ (P. grandifolius ♀ × P. Humblotii ♂). Dendrobium × Murrayi (nobile ♀ × albo-sanguineum ♂) and D. × Astræa (luteolum ♀ × crassinode ♂) also came from the same collection.

Lælio-cattleya × Darwiniana (L.-c. × elegans Turneri ♀ × maxima ♂) and L.-c. × Elsteadensis (C. bicolor ♀ × L. xanthina ♂) came from the collection of C. Ingram, Esq. Cattleya × Lady Ingram (Eldorado ♀ × Dowiana aurea ♂) and C. × Cecilia (Lawrenceana ♀ × Trianæ ♂) are two other beautiful forms from the same collection.

Messrs. James Veitch & Sons have again added several remarkable hybrids to the list, two of the more remarkable being Dendrobium × illustre (chrysotoxum ♀ × pulchellum ♂) and Phalænopsis × Luddle-violacea. Other striking forms are Cattleya × Eros (Mossiæ ♀ × Walkeriana ♂), C. × Eurydice (labiata ♀ × Aclandiæ ♂), Lælio-cattleya × Lady Rothschild (L. Perrinii ♀ × C. Warscewiczii ♂), L.-c. × Myra (C. Trianæ ♀ × L. flava ♂), L.-c. × Eunomia (L. pumila Dayana ♀ × C. Gaskelliana ♂), L.-c. × Semiramis (L. Perinii ♀ × C. Gaskelliana ♂), and Calanthe × Masuco-tricarinata, besides several good Cypripediums.

Among the fine hybrids raised by Messrs. Sander may be mentioned Cattleya × Fowleri (Leopoldi ♀ × Hardyana ♂) and C. × Miss Measures (Lueddemanniana ♀ × velutina ♂), Lælio-cattleya × D. S. Brown (C. Trianæ ♀ × L.-c. × Schilleriana ♂), and L.-c. C. G. Roebling (L. purpurata ♀ × C. Gaskelliana ♂), Sobralia × Amesiæ (xantholeuca ♀ × Wilsoni ♂), and several fine Cypripediums.

Masdevallia × Leda is a pretty little hybrid from M. Estradæ ♀ and M. Arminii, raised by Captain Hincks. Dendrobium × gemma, from the collection of C. Winn, Esq., was obtained by crossing D. aureum ♀ and D. superbum Hultoni ♂: and Selenipedium × Finetianum, from the

collection of M. F. Finet, is descended from S. × cardinale ♀ and S. caudatum ♂. Two other Lælio-cattleyas were described in these pages namely, L.-c. × Trentonensis (L.-c. elegans ♀ × L. pumila ♂), from the collection of the Hon. C. G. Roebling, and L.-c. × Andreana (C. bicolor ♀ × L.-c. × elegans), from the collection of M. Fournier, of Marseilles.

Several Cypripediums have also been recorded from private collections during the year, and glancing back through our pages we note the following: C. × Henry Graves (C. Lawrenceanum ♀ × C. × Marshallianum ♂), from the collection of H. Graves, Esq.: C. × Louisæ (possibly derived from C. × Leeanum and C. × Ashburtoniæ), from R. le Doux, Esq.: C. × St. Hilda (Boxallii ♀ × Curtisii ♂), C. × conco-callosum and C. × calloso-niveum, from R. H. Measures, Esq.: C. × Hurrellianum (Argus ♀ × Curtisii ♂), from C. G. Roebling, Esq.: C. × Rossianum (derived from C. barbatum and C. tonsum), from H. J. Ross, Esq.: C. × Vanneræ (C. Curtisii ♀ × C. × selligerum majus ♂), from W. Vánner, Esq.: C. × Atropos (C. × Ashburtonæ expansum ♀ × C. purpuratum ♂), from Reginald Young, Esq.: and others. C. × Mabeliæ var. Lord Derby, which flowered in the collection of T. Statter, Esq., is the finest of the hybrids derived from C. superbiens ♀ and C. Rothschildianum ♂.

The foregoing are among the principal novelties of the year. A few may have been overlooked in this rapid survey, but others, which are known to be either synonyms or varieties of existing forms, have been purposely omitted, both among species and hybrids. Synonymous names are increasing far too rapidly.

EPIPHRONITIS × VEITCHII.

A FOUR-FLOWERED inflorescence of this handsome little plant has been sent by Messrs. James Veitch & Sons. Its history was given in our first volume (pp. 116, 291), but we may again allude to the remarkable way in which the character of the mother plant has been lost. It was obtained by crossing Sophronitis grandiflora with the pollen of Epidendrum radicans, the latter as many feet high as the former is inches, yet the influence of the Sophronitis is only apparent in the much dwarfed habit of the hybrid offspring. The structure of the flower is precisely that of Epidendrum radicans, enlarged to 1¼ inches diameter across the petals, and the colour darker, almost crimson in shade. No one would have guessed its origin. It received a First-class Certificate from the Royal Horticultural Society on June 24th, 1890. We should like to see what would be the effect of reversing the cross, as well as of again crossing the Sophronitis with pollen of the present hybrid. The result in either case would certainly be interesting.

LÆLIO-CATTLEYA × INGRAMII.

THE plant depicted in our illustration (Fig. 4) is a very beautiful hybrid raised by Mr. Bond in the collection of C. Ingram, Esq., Elstead House, Godalming, from Lælia pumila Dayana ♀ and Cattleya Dowiana aurea ♂. It was exhibited at a meeting of the Royal Horticultural Society on August 9th, 1892, when it received a First-class Certificate. It possesses an unmistakable combination of the characters of the two parents, as will be seen by the illustration, in which, however, the sepals and petals appear to be white instead of rosy-mauve a peculiarity often seen in photographic representations of this and allied colours. The sepals and

FIG. 4.—LÆLIO-CATTLEYA × INGRAMII.

petals are large and broad, and the lip, while taking some of the character of the Lælia parent, shows also the influence of the Cattleya, both in shape and in its rich coloration. In its dwarf habit it most resembles the mother plant. It is a very handsome plant, and one of the best of the seedlings raised from L. pumila Dayana. Our illustration is reproduced from a photograph taken by Mr. G. T'Anson, of Upper Clapton. Sometimes the peduncles bear a couple of flowers.

LÆLIA ANCEPS AND ITS VARIETIES.

FEW Orchids are more popular in gardens than Lælia anceps, and its varieties have now become so numerous that a connected account of them will probably prove interesting to our readers, from whom numerous forms have been received in this and preceding seasons. On former occasions we have treated other popular and variable species in the same way, notably Cattleya Trianæ and C. labiata, Cypripedium insigne, and Dendrobium nobile, and we have the satisfaction of knowing that these lists have been much appreciated.

Lælia anceps was originally described and figured in 1835 (Lindl. in *Bot. Reg.*, XXI., t. 1751), from a plant which flowered in the establishment of Messrs. Loddiges, of Hackney. Two years later the variety Barkeriana appeared, after which came a long interval of about thirty years before Dawsoni came to light in 1868, and about ten years later commenced a series of brilliant acquisitions, which has been gradually growing up to the present time.

The typical form has rose-purple sepals and petals, and a much darker lip, the throat being pencilled with radiating purple lines on a lighter ground. L. a. morada (*G. C.*, 1892, ii., p. 672) is synonymous.

Var. Barkeriana (*Lindl. Bot. Reg.*, t. 1947) only differs from the type in having the petals very little broader than the sepals. It flowered in the collection of G. Barker, Esq., of Birmingham.

Scottiana (*Will. Orch. Illb.*, VII., t. 325), may be described as a good form of the type with flowers a little darker than usual. It flowered with W. A. Scott, Esq., Nunfield, Dumfries.

Var. obscura (Rchb. f. ex *Will. Orch. Gr. Man.*, ed. 7, p. 430) is described as having long dark-coloured sepals and petals, the former white at the base, and the front lobe of the lip deep purple.

Var. lineata (O'Brien in *G. C.*, 1895, ii., p. 734) is a richly-coloured form, in which the basal halves of the sepals are white, with some clearly-defined chocolate lines. It appeared in the collection of Lord Rothschild, at Tring Park.

Protheroeana (O'Brien in *G. C.*, 1896, i., p. 40) is a brilliantly-coloured form, with the sepals and petals white at the base, and the petals with a flame-like crimson flush on the outer halves. It flowered in the collection of Joseph Broome, Esq., of Llandudno.

Schœderæ (Rchb. f. in *G. C.*, 1887, i., p. 72) has flowers light rose with rose-purple tips to the petals; the side lobes being bordered with rose-purple, and the front lobe deep purple. It flowered with Baron Schroder.—F.C.C., Jan. 10, 1888.

Ballantineana (*G. C.*, 1891, i., p. 80) has the flower lightly suffused with

crimson-rose, a little deeper on the petals, becoming quite dark at the tips, and the lip rich crimson. It flowered in the collection of Baron Schroder. —F.C.C., R.H.S., Jan. 13, 1891.

Var. grandiflora (*Hall. Orch. Gr. Man.* ed. 6, p. 351) is typical in form and colour, but has much larger flowers. (*G. C.*, 1888, i., pp. 105–107, fig. 17. The forms called Chamberlain's var. (*O. R.*, III., p. 1) and Rosefield var. (p. 34) are very similar.

Crawshayana (*Journ. of Hort.*, 1895, i., p. 67, fig. 12) is a very large flowered rose-purple form allied to the preceding. F.C.C., R.H.S., Jan. 15, 1895.

Var. leucosticta (Rchb. f. in *G. C.*, 1885, i., p. 206) is a rosy form, in which the petals are irregularly streaked with white. It flowered in the collection of Mr. Greenfield, of Dunstable.

Var. radians (Rchb. f. in *G. C.*, 1888, i., p. 298) is much like the preceding, but has a white space at the base of the sepals and petals.

Oweniana (*G. C.*, 1892, ii., p. 744) is a richly-coloured variety, in which the segments are conspicuously flaked with white. It flowered in the collection of G. D. Owen, Esq., of Rotherham. *Journ. of Hort.*, 1892, ii., p. 569, fig. 77.

Dawsoni (*G. C.*, 1868, p. 27) was the first white form, and appeared in the collection of T. Dawson Esq., at Meadow Bank, Glasgow. It has very broad, proportionately short petals, and a large deep purple blotch on the front lobe of the lip.—*O. A.*, I., t. 44.

Var. vestalis (Rchb. f. in *G. C.*, 1880, i., p. 126) approaches the preceding in shape, but has the front lobe of the lip white, the purple pencillings on the side lobes alone remaining. It flowered in the collection of Sir Trevor Lawrence, Bart.

Hollidayana (O'Brien in *G. C.*, 1894, i., p. 166) is near Dawsoni, but has a shorter, broader lip, with a carmine-crimson blotch on the square front lobe.

Amesiana (O'Brien in *G. C.*, 1888, ii., p. 660) has the shape and other details of Dawsoni, but the petals have a purple feathered tip. It appeared with Messrs. Sander. *Journ. of Hort.* 1893, ii., p. 505, fig. 73.

Var. alba (Rchb. f. in *G. C.*, 1879, i., p. 10) is an albino, having lost the purple pencillings on the side lobes of the lip. In shape it has been compared with Dawsoni, but there is a similar form with comparatively narrow petals which goes under this name. An albino called virginalis (*Journ. of Hort.*, 1887, i., p. 42, fig. 7), which appeared with F. A. Philbrick, Esq., of Bickley, has also petals 1½ inches broad.

Schroederiana (Rchb. f. in *G. C.*, 1885, i., p. 342) is a very large pure white form, with the petals and front lobe of the lip very broad. The side lobes are veined with purple. It flowered in the collection of Baron

Schroder. O. A., X., t. 473.—L. A. Hyeana, *Lindenia*, V., t. 266, is synonymous.

Ashworthiana (O'Brien in *G. C.*, 1894, i., p. 103, fig. 10) has almost the shape and other details of the preceding, but the front lobe of the lip is sparingly pencilled with purple.—F.C.C., R.H.S., Jan. 16, 1894.

Var. munda (Rchb. f. in *G. C.*, 1886, i., p. 298), it is said, would be Schroederiana, were not the yellow colour confined to the three keels at the base of the lip. It flowered with M. L. Kienast, of Zurich.

Stella (Rchb. f. in *G. C.*, 1886, i., p. 136) is near Schroederiana, but the petals and front lobe of the lip are a little narrower. It flowered in the collection of G. C. Hill, Esq., of Nottingham, and immediately afterwards in that of C. Ingram, Esq., of Godalming. *O. A.*, VIII., t. 329. Mr. Catt (*G. C.*, 1890, i., p. 239), thinks this identical with vestalis.

Williamsiana (Sander ex *Hall. O. Gr. Man.*, ed. 6, p. 353), is rather smaller than the preceding, and wholly white, except the purple veins of the side lobes. It appeared with Messrs. Sander. *O. A.*, IV., t. 190.

Sanderiana (Rchb. f. in *G. C.*, 1885, i., p. 140), has longer and narrower sepals and petals than Dawsoni, but is much like it in colour. It appeared with Messrs. Sander.—Reichenbachia, ser. 1, II., t. 56.

Var. amabilis (Rchb. f. in *G. C.*, 1888, i., p. 104) is said to have a little purple marking on the front lobe and angles of the side lobes, the petals being broad. It may come near the preceding. It appeared with Messrs. Sander.

Leeana (Rchb. f. in *G. C.*, 1884, i., p. 445) is described as having flowers smaller than usual, white, with the tips of the side lobes light purple in colour and two reddish purple stripes on either side of the mid line. It appeared with Messrs. Sander.

Kienastiana (Rchb. f. in *G. C.*, 1886, i., p. 298), it is said, would be Dawsoni, but for the rosy hue of the fine broad petals. The side lobes of the lip are also tinted with rose. It flowered with M. L. Kienast, of Zurich.

Var. delicata (*Hall. O. Gr. Man.*, ed. 6, p. 351) has the sepals and petals white, stained with rosy purple, and the lip suffused with reddish-purple.

Calvertiana (Rchb. f. in *G. C.*, 1883, i., p. 78), is described as near Dawsoni, except that the petals are narrow: the side lobes of the lip bordered with rose and the front lobe wholly red-purple. It flowered in the collection of J. Calvert, Esq., of Wood Green.

Var. blanda (Rchb. f. in *G. C.*, 1885, i., p. 206) has the sepals and petals white with a light rosy hue, and the front lobe of the lip warm purple. It it near Calvertiana, and flowered in the collection of W. Cobb, Esq., of Sydenham.

Percivaliana (Rchb. f. in *G. C.*, 1883, i., p. 110) has the sepals and

petals light rose-purple, the side lobes tipped with amethyst-purple, and the front lobe deep purple. It appeared in the collection of R. P. Percival, Esq., of Southport.—*O. A.*, VI., t. 256.

Var. rosea (Rchb. f. in *G. C.*, 1880, i., p. 104) has light rose sepals and petals, the margins of the side lobes and the front lobe rather darker. It appeared in the establishment of Mr. W. Bull, of Chelsea. *Garden*, 1884, i., t. 446, f. 4.

Hilliana (Rchb. f. in *G. C.*, 1881, i., p. 168) has the sepals and petals nearly white, and the lip bordered with light rose. It appeared with Messrs. Sander.—*O. A.*, IV., t. 146.

Veitchiana (Rchb. f. in *G. C.*, 1883, i., p. 274), has sepals and petals white, lip light mauve-purple. It appeared with Messrs. Veitch. *Garden*, 1884, i., t. 446, fig. 7.

Var. holochila (Rolfe in *G. C.*, 1891, i., p. 426) is a remarkable peloriate form, in which the lip is entire and petal-like, and the flower pale rosy-lilac throughout. It appeared among importations of the Liverpool Horticultural Co. *Garden and Forest*, 1891, i., pp. 172, 173, fig. 31.

CYPRIPEDIUM × ATYS VAR. RUBRUM.

A flower of this handsome variety has been sent by F. M. Burton, Esq., Highfield, Gainsborough, together with a note on its history. It was obtained from C. venustum ♀ and C. Hookeræ ♂, and was exhibited at a meeting of the R. H. S. on November 14th, 1893, under the name of C. × rubrum, though the name seems to have been omitted in our report. It was, however, recorded shortly afterwards (*Gard. Chron.*, 1893, ii., p. 741). Then it was described as C. × Burtoni by the late Mr. Gower (*Garden*, XLV., p. 181), who thought C. Lowii was one of the parents, which, however, Mr. Burton corrected (*l.c.*, p. 206). The leaves much resemble those of C. Hookeræ, and the scape is rather tall. The flower also is most like this parent, but the dorsal sepal has about nineteen light green nerves, as in C. venustum, the shape and ground colour approaching C. Hookeræ. The petals are very similar to the last-named, but are flatter at the base. This part is light green, which gradually passes to the most brilliant purple-crimson in the apical third, the middle being spotted with dark brown. The lip has the shape and veining almost of C. venustum, though the latter is partially obliterated by a suffusion of bronzy brown. The staminode is about intermediate in shape, and approaches the lip in colour. It is a well-shaped and brilliantly-coloured flower, and much the best we have seen from this parentage. Mr. Burton writes that he fully approves of the name above adopted, and thinks that it is based on the right principles. About twenty plants were raised, which commenced flowering when four years old.

CYPRIPEDIUM CONCOLOR VAR. LONGIPETALUM.

A VERY remarkable form of Cypripedium concolor has appeared in the collection of R. Brooman White, Esq., of Arddarroch, in which the petals are unusually long and narrow, being $2\frac{3}{8}$ inches long. The colour of the flower is light yellow, as in the type, and the dorsal sepal broadly elliptical-oblong, $1\frac{5}{8}$ inches long by $1\frac{1}{4}$ broad, the lower half being lightly reticulated with light purple-brown nerves in front, and a narrow dark line along the centre: spotted all over with a rather lighter shade behind. The petals each have a narrow dark line down the centre in front, and a few similar small spots near the base, while behind the nerves are covered with rows of minute purple-brown dots. The lip is $1\frac{1}{4}$ inches long, and light yellow, with a few minute purple dots in front, and numerous ones on the side lobes. It is remarkably distinct in shape, but is evidently a variety of C. concolor, with which the foliage agrees. It was obtained as an imported plant about two years ago.

R. A. R.

CYPRIPEDIUM × LITTLEANUM.

WITH respect to this remarkable natural hybrid, described and figured at page 209 of the last volume, Mr. Hansen remarks, "Such nat. hyb. was in cultivation at Sander & Co., St. Albans, in 1887, a water colouring of which I took at the time" (*Orch. Hyb.*, p. 255). Is this identification quite certain? If so, where is the plant now? So fine a thing would hardly be lost, but Mr. Little's plant being an imported one, obtained from Mr. Tracey, of Twickenham, precludes the possibility of the two being identical. It would be interesting to know the precise history of the plant alluded to, and to see the drawing. If Mr. Hansen knew of any record, he would have mentioned it, and it is desirable that the identification should be confirmed.

A CURIOUS CATTLEYA.

MAY I be permitted to describe in your pages a curious flower of *Cattleya labiata* which has recently opened here, and which, though different from the two instances recorded in the December *Revue*, may no doubt be accounted for in the same way. (*O. R.* III., p. 368.) The flower consists of six parts, made up of two sepals, two petals, and a column with two stamens. The back sepal and the two side petals are normal in colour, shape, and size, but the two side sepals and the lip are wanting, a lower sepal taking the place of the latter. The column is $1\frac{1}{2}$ inches long, perfectly straight and upright, in shape somewhat like a long club, and bearing at the top.

in a line with the two sepals (anterior and posterior), two perfect anthers. Curiously enough the anthers are reversed, both facing inwards, the two column-beaks (*rostella*) touching but free, overlooked by two column-wings, one on each flank, the hinges of the pollen-caps being as far apart as possible. I fail to find any trace of a stigma, but the ovary is one-celled, as usual.

The following diagram will perhaps show at a glance the position of the principal parts of this peculiar flower :—

S = Sepal. P = Petal. A = Anther.

I might also state that the flower came alone on its pseudobulb, and without the usual sheath : while another pseudobulb on the same plant is bearing two perfectly normal flowers.

Personally, I wish to thank Mr. Rolfe for his very interesting and suggestive article, "The Structure of an Orchid Flower," in the December *Review*. When we see in the great family of Orchids so many varied and wonderful structures, each, apparently, being the means to an end, we cannot but wonder *why* and *how* they came to be ; and although we may not yet be able to know *why* they exist, yet, thanks to modern research upon the lines adopted by that great naturalist, Charles Darwin, we are able, in a measure, to know *how* they came about; and by tracing the descent of the present-day Orchids to their probable source –the simple monocotyledon—we are able to get a little nearer to that more remote, but none the less interesting question, the origin of all forms of life.

CHARLES C. HURST.

Burbage Nurseries, near Hinckley.

[It seems highly probable that the organ called the "lower sepal" was the median petal unmodified into a lip, the more so from the fact of there being an additional stamen: and as this stamen occupies the position of a 3, it would appear that both the lateral sepals and the corresponding stamens of the outer whorl *i.e.*, the side lobes of the lip were suppressed. The alternative would be that these organs respectively were confluent in one, and the median petal absent, which is less likely, especially when one remembers that A 2 and A 3 are branches of the cords which feed the lateral sepals. It is a very curious and interesting flower, which we should have liked to have seen.—ED.]

CALENDAR OF OPERATIONS FOR FEBRUARY.

By H. A. Burberry, Highbury, Moor Green, Birmingham.

The temperature and general management of the plants for the present month should be as recommended for January, namely: by treating them as liberally with air, warmth, and moisture as the outside conditions will permit. Up to the time of writing, the weather for January has been quite exceptional for its mildness, enabling us to apply fresh air more freely than usual at this time of year, a fact which it is needless to add must promote a healthy and beneficial effect. The atmosphere, too, considering its mild and damp nature, is tolerably clear, resulting in a good average amount of sunshine and light. Of course, as the days lengthen and the light increases so may the thermometer gradually rise, and a little more moisture be supplied, which will tend to encourage new growth. But by all means let everything in this direction be done gradually, or the result may be the reverse of satisfactory, for the weather just yet is not to be relied upon: and a spell of lovely warm spring-like weather may be followed by another of almost Arctic severity. It is at such times that those plants, having been unduly hastened into growth, receive a check from which they sometimes never fully recover.

The successful wintering of the plants in all departments necessarily depends largely upon the health and stamina which they possess. No plant can remain vigorous if the compost in which it is growing is decayed, for it follows that the roots also will be more or less decayed, and when this is the case, a very little drought will suffice to cause great exhaustion shrivelling, loss of leaves, &c. The plant having a good supply of healthy roots must necessarily be in good compost, and is pretty sure to get along all right under rational treatment, and continue to improve and increase in size. To achieve this, neither excessive drying up in the winter is desirable, nor excessive watering during the summer; all that is required being a common-sense method of treatment, which is one of moderation at all times, avoiding anything approaching coddling or excess in any direction. Under such circumstances strong plants will thrive, but it is the sick ones which give the greatest trouble, and are apt to go from bad to worse during the winter months, unless specially cared for. By way of illustration let us suppose we have two Cattleyas: one is in vigorous health with plenty of roots in good sound sweet compost, the other a weakly specimen having little or no roots, although in this case the compost may likewise be all that is necessary. In all probability the latter plant has been allowed to get too bad before it was repotted, whereby its period of convalescence will be greatly prolonged. It is only natural that such a plant should demand at all times more attention. For instance, a little more water during the

resting season would be required, or it would shrivel badly ; it would want cleaning and freeing from scale and other pests more frequently than the strong one ; and it could not withstand so much bright sunshine, &c.

It is such plants, that by some means or other have got down below par, that must have special attention if they are to survive and again take their places in the front rank. It is therefore anything but good practice to hide them from view by placing them away behind other plants, in order to give the whole a better appearance, for unless these weakly plants are seen frequently, they invariably miss that extra attention so urgently needed for their recovery. They should, if possible, be placed at some convenient place, so that their wants can be the better supplied.

The short-bulbed Mexican Lælias are now past : they have indeed made a bold show for the last two months, and it is not easy to name a more useful family for mid-winter work, that is, supposing they are well grown ; for if not, they are not nearly so satisfactory. On the whole we grow them pretty successfully, though there are one or two species which we would fain grow and flower better. The chief of these is that lovely L. furfuracea, which seems an especial slow one to grow properly. L. anceps is easily first in freedom of growth and flower, and I think it must also take first place in point of beauty, especially the lovely white varieties. During the second week in January we had here out in bloom between 50 and 60 spikes of the latter varieties ; one fine plant producing 19 spikes with a total of 73 flowers, an average of nearly four flowers to each spike. Several, however, had five full-sized flowers, the smallest number being three. This plant, of course, looked very handsome, and it it is needless to say that the whole of the 60 spikes mingled with the few remaining coloured varieties of the same species made a very fine show indeed. I should, however, here remark that all of the white Lælia anceps do not yield flowers in such abundance. The above are the long-bulbed variety, having very dark green foliage and a bright coloured lip, I think generally known to the trade as L. a. Sanderiana. We have also other varieties not having this distinctive mark on the lip, which are equally floriferous, but all have the long pseudobulbs and dark green foliage. There are other white varieties which bear from one to two flowers on a spike only, which detracts very much from their value, and these have a much shorter, and, in fact, a typical anceps bulb and leaf. The culture of the Mexican Lælias, is on the whole, easy, if treated in accordance with their very simple requirements. There must not be too much nursing or coddling, nor must they be starved for the want of water or other simple necessaries of life, such as repotting or re-basketing when required. I have occasionally seen some where the new growth, or rather the last made pseudobulbs, were overhanging the sides of the pot, the new roots growing out into space, where they soonel

or later come to grief. The ordeal of flowering to such plants is most exhaustive, and they soon afterwards collapse. Unless Laelias have overgrown their pots or baskets, once in about three years is often enough to furnish new materials throughout, all else that is required being a top dressing every year. What is intended to be done to them, either in the way of repotting or top-dressing may be done during this or next month. It is well known that the Mexican Lælias require but little water during winter to keep them plump, but, like Cattleyas, they should most certainly have enough to do this without the least signs of shrivelling. They should be grown in full sun with an abundance of air, which will keep them robust. This end can be attained the better if the plants are suspended near the glass.

The great and beautiful family of the Dendrobium is coming on apace, and will for some time hence do good service in the Show-house. Where good growth was put on last year, and afterwards well but wisely ripened, the flower buds will now be in a more or less advanced stage. Do not force or hurry them forward too much, the majority of the late winter and spring flowering kinds come much better and finer if allowed to come along quietly in a temperature of about 60°, receiving just enough water at the roots and atmospherically to keep the pseudobulbs plump. With the bulk of Dendrobes it is yet a little too early to do very much repotting, but there are instances where a start can be made so as to get as many as possible off hand. The seedlings yet too small to flower may be done and started gently into growth. There will doubtless also be others which are not intended to flower on account of insufficient strength or size, which could also be done, the remainder having attention as soon as deemed safe after flowering is over. In all cases let the watering of these Orchids be done with scrupulous care until the new growth gets well up, and the new roots take well to the compost; and let the temperature be warm and genial, between 60° and 70°, so as to encourage healthy and sturdy growth. Dendrobiums generally do best suspended in either small pans or baskets, as good culture is more reliable when kept to small receptacles. Fresh sphagnum moss and the best of fibrous peat in equal proportions is the most suitable compost. The old back pseudobulbs render little service after about the third or fourth year, and may be detached from the plant. These old pseudobulbs will mostly propagate freely if cut in lengths of about three inches, and laid on sphagnum moss kept moist. The small plants resulting, which may be called cuttings, will in about two years be sufficiently large to again replace with the parent plant, thus keeping up a constant supply of fresh healthy young stock, which is necessary to form large specimens.

In growing Dendrobiums there are mostly a few that are inclined to give trouble to the cultivator in a more or less degree, being more disposed

to decrease in size than to grow larger, which is needless to say extremely annoying. Such behaviour is not always distinctly traceable to any direct cause, although it cannot be questioned that there is a cause. I have known it arise through keeping the plants back too much, which necessitates a very cold temperature, in order to make them bloom much after their accustomed time. But whatever may be the reason such plants will persistently defy all attempts at coaxing into a better frame of mind. Perhaps it may be a D. nobile or one of its numerous progeny, or it may be some other species quite different. It will doubtless be potted up in the best of compost, be given the best of positions, and subjected to the most careful watering, yet even then it still remains obdurate. Perhaps new growth will duly show, which would indicate that matters were all right, but suddenly they damp off; others may follow, and suffer the same fate. Before the growing season is quite over, however, the plant will have succeeded in forming one or two puny small pseudobulbs, with a corresponding number of roots. When you get such a plant and it should survive the winter, it is useless to waste time by trying to grow it in the usual manner. Take it out of the pot, cut off all the dead roots, separate each bulb at the base and lay them on damp moss on a shelf or somewhere out of the way in the warmest house. Keep the moss well supplied with water during the summer, then from some part of these old bulbs will spring new growths which will by autumn make nice little new bulbs, and these may afterwards be placed together and will soon make a good plant again.

The foremost representative of the labiata section of Cattleya just now is Cattleya Trianæ and its varieties, a most beautiful and useful species, but one, unfortunately, owing to its being so very susceptible to fogs, finding but little favour in London gardens, as they generally fail there to expand their blossoms. Apart from this it is one of the freest to grow and flower. It soon commences to root and grow after blooming, and the repotting or top-dressing should not then be very long delayed. The usual Cattleya or intermediate temperature is only required. C. Percivaliana, although the flower on the whole is very rich and pretty, cannot, I think, be compared to the first named for general usefulness. One thing very much against this species is its habit of failing to produce its flowers satisfactorily, and very often, too, in country places, even after making average sized pseudobulbs fully equipped with sheaths. Of course the failure is not so great if the plants are kept rather dry and warm when throwing up their spikes, but there is always a large percentage that fails to come, which makes it appear that C. Percivaliana is even more susceptible to atmospheric conditions than C. Trianæ.

There are a large number of Oncidiums which lend themselves kindly to Cool house culture, making growth there much freer and stronger than

when grown in more warmth. O. serratum is one of these, and is now in flower. In growth it is very like O. macranthum, and requires exactly the same kind of culture, growing at the coolest part of the house. They succeed best in pots on the stages, and should be potted in sphagnum moss and fibrous peat in equal parts, and at almost any time during the year, when they can be caught in the right condition. This is after being relieved from their immensely long and exhaustive flower spikes, when they again commence to push up growth. When in robust health these Orchids are a refreshing sight to see, such fine green healthy foliage and psendo-bulbs do they make, and such a bristling mass of roots do they send forth. The treatment is exactly the same as for other cool Orchids; watering them with great care during the winter; letting the compost appear dry for several days before giving water: and at the same time taking care not to get the atmosphere over moist by too frequently damping down: which is a great mistake at this time of year. Once a day is quite sufficient for damping down, and if the plants have lately been watered it may sometimes be advisable not to wet the floors for a day or two afterwards, until the plants begin to get dry again. These Oncidiums delight also in an abundance of air at all times when the outside weather will admit. O. superbiens, O. trilingue, O. lamelligerum, and O. monachicum are very similar in growth and general requirements.

Keep down aphides and thrips at all costs. I find the best thing is Richardson's X L. All fumigating insectide, as there is no fear of injury to either foliage or flowers. I use it in every house in accordance with the directions issued, and have not observed any bad results from its use. Neither the plants nor the atmosphere should be over dry when fumigating is intended, and once doing is generally sufficient to kill all insect life.

Attend to the blinds for summer shading in time, so that they are ready for use when required.

ODONTOGLOSSUM CRISPUM SULFUREUM.

A FINE flower of a beautiful sulphur-yellow variety of Odontoglossum crispum has been sent from the collection of R. Brooman White, Esq., of Arddarroch, which is well described by the above name. It measures 2½ inches in diameter across the toothed petals, which, as well as the sepals, are very broad, giving the flower a very full and round appearance. The colour is bright sulphur-yellow, a little darker round the margin of the petals and on the lip. It is without any trace of spots, and is a very charming form. Another form, quite similar as to colour, but with much narrower segments, is also enclosed, and a flower of O. Pescatorei with a few small violet spots on the petals.

AN AMATEUR'S NOTES.

THE Dendrobiums are now coming on in force, and a series of D. nobile, Wardianum, and crassinode brighten up the house, together with D. fimbriatum oculatum, D. × Cassiope, and some other of the beautiful hybrids which now make such an addition to the collection in the spring months. Cœlogyne cristata has also begun to unfold its beautiful flowers, and this species and its varieties will be a feature of the Cool house for some weeks, while Cattleyas Percivaliana and Trianæ must also be added to the list, Lælia anceps in a series of purple and white varieties, together with Sophronitis grandiflora, Masdevallia tovarensis, Calanthes, and several others mentioned in previous notes are also still flowering well, together with a number of good Cypripediums, which undoubtedly stand in the front rank as useful winter-flowering plants, and will be increasingly so as time goes on.

Odontoglossums are now throwing up strong spikes, and a few are already out, including O. pulchellum and the beautiful little O. Rossii, which hangs side by side with Sophronitis grandiflora, and produces a most effective contrast. Phalænopses are also progressing favourably, and, if the fog keeps off, will soon commence to flower, though some buds have dropped already from this cause. Hitherto the weather has been unusually favourable, and everything is looking very promising for the coming spring.

ORCHID PORTRAITS.

ANGRÆCUM SANDERIANUM.—*Journ. of Hort.*, Dec. 26, p. 590, fig. 91.

CALANTHE × GIGAS.—*Journ. of Hort.*, Jan. 9, p. 25, fig. 4.

CATASETUM × IMPERIALE. *Gard. Mag.*, Jan 25, p. 51, with fig.

CATTLEYA LABIATA (two-leaved). *Gard. Chron.*, Jan. 4, p. 13, fig. 2.

CYPRIPEDIUM × ALLANIANUM SUPERBUM. *Gard. Mag.*, Jan. 18, p. 33, with fig.

CYPRIPEDIUM × ELLIOTIANUM. *Journ. of Hort.*, Jan. 16, p. 55, fig. 8.

CYPRIPEDIUM × EURYADES.—*Journ. of Hort.*, Jan. 16, pp. 47, 50, fig. 7.

CYPRIPEDIUM INSIGNE (sepals alike). *Gard. Chron.*, Dec. 28, p. 763, fig. 129.

DENDROBIUM HILDEBRANDII, Rolfe. *Bot. Mag.*, t. 7453.

ODONTOGLOSSUM CITROSMUM. *Rev. Hort. Belge.*, Dec., p. 265, with plate.

ODONTOGLOSSUM CORONARIUM. *Gard. Chron.*, Jan. 18, p. 79, fig. 12.

ODONTOGLOSSUM CRISPEDII.—*Gard. Chron.*, Jan. 18, pp. 77, 79, fig. 11.

STANHOPEA HASELOVIANA, Rchb. f. *Bot. Mag.*, t. 7542.

ZYGOPETALUM × LEUCOCHILUM.

A RACEME bearing four flowers of this very distinct plant has been sent by Messrs. James Veitch & Sons. It is recorded as having been derived from Zygopetalum Mackayi ♀ and Z. Burkei ♂, though, as in one or two other of the supposed crosses from Z. Mackayi, we believe that Z. intermedium is intended, these two plants having somehow become confused together. The flowers of Z. × leucochilum are over 2½ inches in diameter, the sepals and petals light green, lined along the centre and spotted near the margin with dark brown, and the lip white except for the numerous striations of violet on the crest. The face of the column is also closely striated with violet. The flowers are deliciously fragrant. It is fairly intermediate in character, but most resembles the pollen parent in character.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

AT the opening meeting of the year, on January 14th, there was a fine display of Orchids at the Drill Hall, James' Street, Westminster: this being largely due to the mild open weather which prevailed.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a magnificent group, to which a Silver Flora Medal was given. In the centre was a splendid specimen of Lælia × Gouldiana with some twenty-five spikes, to which the special award of a Silver Banksian Medal was made. A Cultural Commendation was also given to a noble plant of Lycaste plana Measuresiana; and Botanical Certificates to Masdevallia ludibunda, M. striatella M. polysticta, and M. p. purpurea. The group also included a number of Lælia anceps varieties, the rare and pretty Oncidium × Wheatleyanum, O. cucullatum, a fine inflorescence of Odontoglossum coronarium miniatum, Masdevallia cucullata, Dendrobium æmulum, Cypripedium × Lawrebel, C. × Leeanum Albertianum, C. × Morganiæ burfordiense, and others.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), showed a very fine collection of cut Cypripediums, including fourteen species and thirty-six hybrids, a group thoroughly representative of the best winter-flowering kinds. He also sent a well-grown Cattleya Trianæ Backhouseana, and Lælia × Finckeniana, with its two parents L. albida and a white form of L. anceps. A Silver Banksian Medal was awarded to the group.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), received a Bronze Banksian Medal for a pretty little group, including a fine specimen of Vanda Amesiana with ten spikes, the remarkable yellow Cypripedium venustum Measuresianum, C. × Olenus, C. × Calypso superba, Odontoglossum × Humeanum, Lycaste Skinneri, L. S.

alba, and Oncidium cheirophorum; a Botanical Certificate being awarded to the latter.

S. Courtauld, Esq., Bocking Place, Braintree (gr. Mr. Wright), sent a very interesting group of Masdevallias, to which a Bronze Banksian Medal was awarded. It included M. fulvescens, M. hieroglyphica, M. leontoglossa, M. pictmata, M. striatella, M. velifera, M. Wageneriana, M. × Gaiana, M. × Heathii, M. × Hincksiana, M. abbreviata and M. eloptera, the two latter each receiving a Botanical Certificate.

C. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), received Awards of Merit for a fine form of Cattleya Percivaliana, called Ingram's var., and for Lælio-cattleya × Cicero (C. intermedia ♀ × Lælio-cattleya × elegans Turneri ♂), the latter a very pretty form, somewhat resembling L.-c. × Schilleriana, but with the lip approaching C. intermedia in shape, and the sepals and petals light blush.

Baron Sir H. Schroder, The Dell, Egham (gr. Mr. Ballantine), received an Award of Merit for Vanda × Charlesworthii, a pretty natural hybrid between V. cœrulea and V. Benson, which was described at page 322 of our second volume.

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr. Mr. Johnson), received an Award of Merit for a handsome form of Cypripedium × Calypso, called Stand Hall variety, with the dorsal sepal covered with purple over fully two-thirds of its surface. He also sent C. × Ceres, and a very pretty hybrid from C. × Ashburtonæ ♀ and C. × Numa ♂, called C. × annamense.

The Hon. Walter Rothschild, Tring Park (gr. Mr. Hill), received a Botanical Certificate for Lycasta trifoliata, Lehm.

Earl Cowper, Panshanger, Herts (gr. Mr. Fitt), sent a group of fine cut spikes of Calanthe × bella, to which a Cultural Commendation was given.

C. B. Powell, Esq., The Old Hall, Southborough, Tunbridge Wells (gr. Mr. Dupont), sent a finely-grown plant of Angræcum sesquipedale, with fourteen flowers, which also received a Cultural Commendation.

John Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whiffen), sent a fine form of Cattleya Trianæ, Lælia anceps Sanderiana, and Cypripedium × nitens.

W. C. Walker, Esq., Percy Lodge, Winchmore Hill (gr. Mr. Cragg), sent a plant of the curious Oncidium Cebolleta.

A. Warburton, Esq., Vine House, Haslingden, sent a flower of Cypripedium × Fairieano-Lawrenceanum.

Messrs. James Veitch & Sons, Chelsea, staged a very interesting group of fine things, to which a Silver Flora Medal was given. It included the singular orange-scarlet Dendrobium subclausum, D. × euosmum roseum, Epiphronitis × Veitchii, Epidendrum × Endersio-Wallisii, Cypripedium

insigne Sanderianum, C. × Lathamianum, and others. Special awards were given to the following:—The pure white Phaio-calanthe × Sedeni albiflora, which received a First-class Certificate. Selenipedium × Schroederæ candidulum (S. × Sedeni candidulum ♀ × S. caudatum Wallisii ♂) an Award of Merit, and two forms of Cypripedium × Euryades, a spotted and a purple one, also each received an Award of Merit. These, it would appear, are forms of C. × Adrastus.

Messrs. F. Sander & Co., St. Albans, also received a Silver Flora Medal for a fine group, containing Dendrobium Johnsonæ, the pure white Lælia anceps alba, and others, Lycaste Skinneri, L. lanipes, Odontoglossum × aspersum, O. Rossii, Phaio-calanthe × Arnoldiæ superbum, and a number of good Cypripediums. Among the latter was a pretty hybrid from C. Curtisii ♀ and C. concolor ♂, called Minnie Ames, with pretty yellow flowers tinged with light rose; C. × Said Lloyd (Godefroyæ ♀ × venustum ♂), C. × A. R. Smith (callosum ♀ × Druryi ♂), C. × Henri Vander-Straeten (C. × Mrs. Canham ♀ × C. × Leeanum ♂), &c.

Mr. W. Bull, Chelsea, showed three well-flowered examples of Cattleya Walkeriana nobilior, and five fine plants of the pure white C. Trianæ alba, the latter receiving a First-class Certificate.

Messrs. Hugh Low & Co., Upper Clapton, staged a very effective group, to which a Silver Banksian Medal was given. It contained a beautiful example of Cymbidium Traceyanum, a very fine Cypripedium × Olenus, C. Sanderianum and others, together with other showy Orchids.

Messrs. B. S. Williams & Son, Upper Holloway, also received a Silver Banksian Medal for a fine group of Cypripediums, together with Calanthe × bella, Lycaste mesochlæna, and a few other showy things.

Messrs. Heath & Son, Cheltenham, sent some good forms of Cypripedium × Leeanum, and others.

CORRESPONDENCE, &c.

H. T. C., N. Jersey. Lælia anceps alba, L. a. rosea, L. autumnalis alba, L. × Finckeniana, and Cymbidium sinense.

C. A. H., Belvedere. The best time for importing West Indian Orchids would be as soon as the growths are properly matured, or, in other words, during the resting season.

H. J. R., Florence. Apparently one of the forms of C. × Fitzus.

D. M., Dorking. A good typical form of Lælia anceps

G. W. An account of the varieties of Lælia anceps appears in the present issue.

Photographs received, with thanks.—C. B. L.-S.

F. R. and M.-B. The Cattleya Fly is certainly a terrible pest where it has obtained a foothold, but we should persevere with the stamping-out policy.

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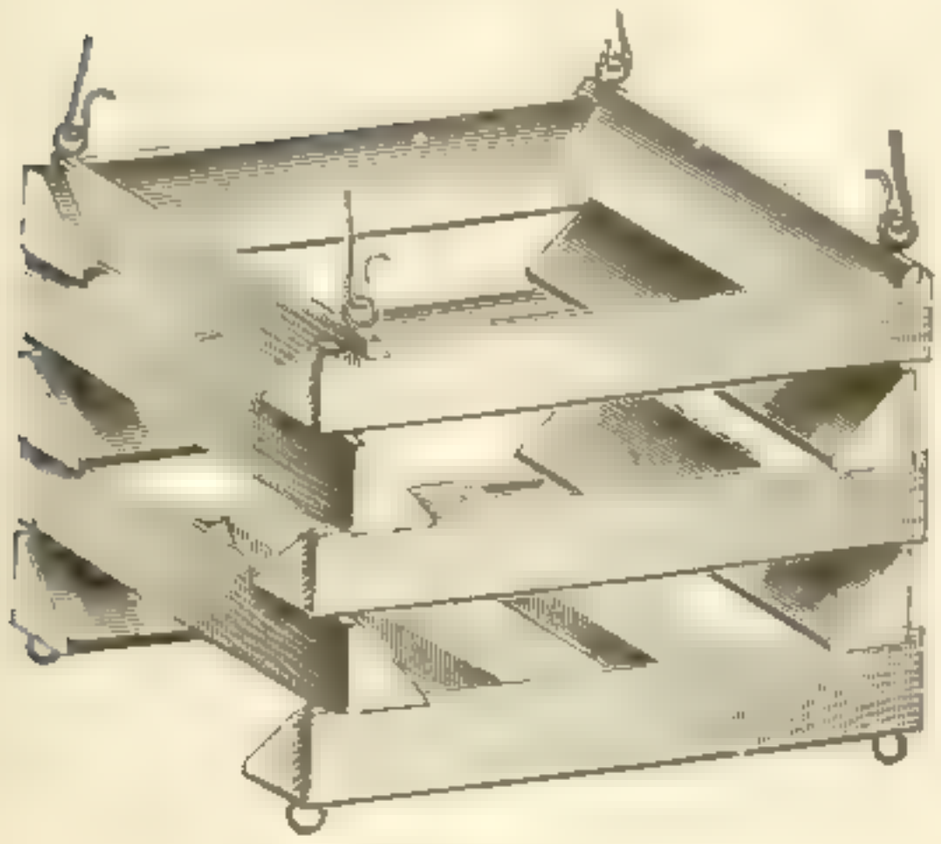

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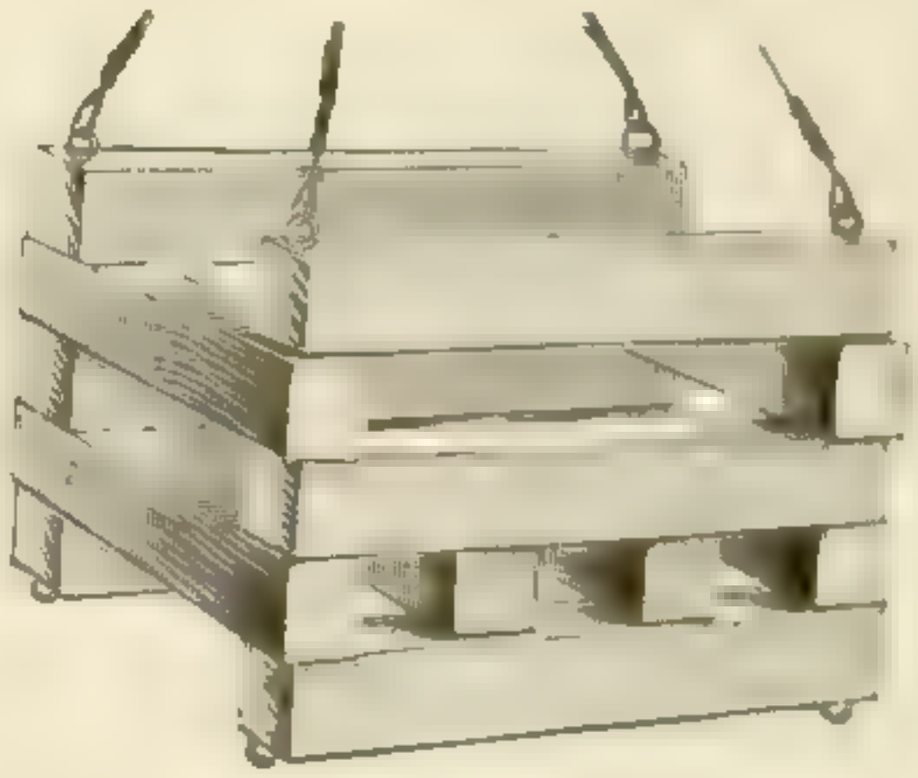

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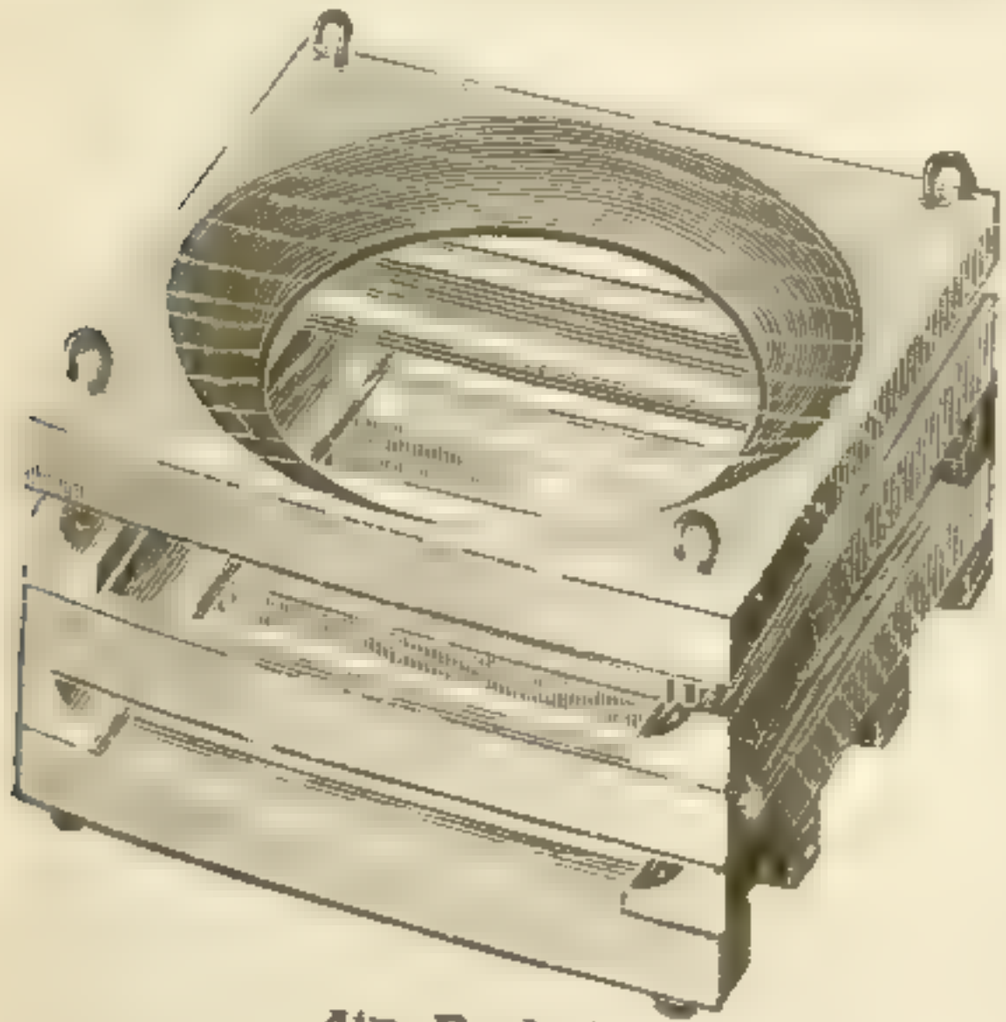

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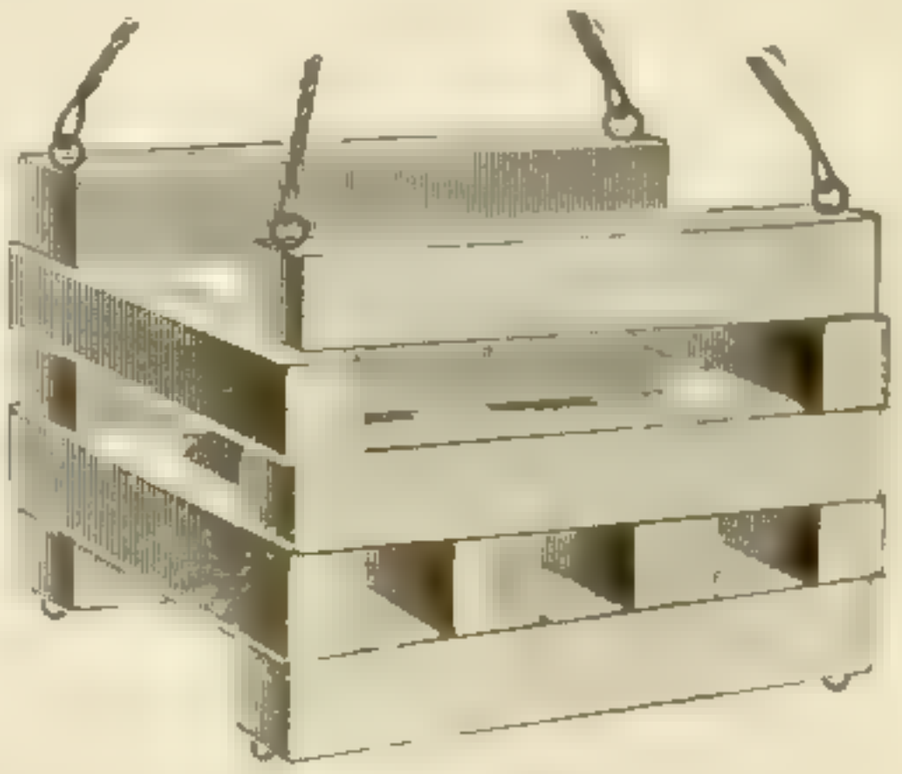

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NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James' Street, Westminster, during March, on the 10th and 24th respectively, when the Orchid Committee will meet at the usual hour of 12 o'clock, noon.

A view of an Orchid house at Eaton Hall, Chester, the residence of the Duke of Westminster, appears in the *Gardeners' Chronicle* for January 18th last, as a supplementary plate, showing various autumn-flowering species in bloom.

A figure of a fine group of the beautiful Dendrobium Phalænopsis, as grown by Mr. James Cypher, of Cheltenham, is given in the *Gardeners' Magazine* for December 28th last (page 841).

Three forms of the handsome Selenipedium × pulchellum, described at page 166 of our first volume, have been received from the collection of W. Vanner, Esq., of Camden Wood, Chislehurst. The one considered typical has the flowers nearly white, with the front of the lip and tips of the petals suffused with light rose. One called variety candidulum has the same parts very light blush, and the hairs at the base of the petals reddish purple. The flower is also larger, and, altogether, is a very beautiful nearly white form. The variety rubrum has the front of the lip, and the margins and apical halves of the petals rosy red. All are very handsome. The resemblance to S. × Sedeni var. leucorrhodum is remarkable, considering that the parentage is different.

A fine five-flowered raceme of Odontoglossum Cervantesii decorum has been sent from the collection of the Right Hon. Joseph Chamberlain, M.P., the individual flowers measuring 2¾ inches in diameter—an excellent example of good culture.

A good form of Cattleya Percivaliana from the collection of F. Hardy, Esq., of Ashton-on-Mersey, in which the front lobe of the lip is similar in colour to the rest of the flower, namely light rosy purple. The throat is of the usual deep orange colour. It may be called C. Percivaliana var. bicolor.

Referring to the note at page 1 of Cypripedium × Ashburtonæ with twin-flowered spikes, Mr. W. Wallace Lunt, of Boston, Mass., writes to say that the phenomenon is of quite frequent occurrence in his small collection, and that at the present time he has in flower the following, all with two-flowered scapes: -C. barbatum, C. callosum, C. insigne, C. Spicerianum, C. venustum, C. × vexillarium, and C. × Lathamianum. Excellent photographs of C. callosum and C. × vexillarium in this state are enclosed, and show that the plants are strong and well cultivated.

A photograph showing three flowers of Selenipedium × Schrœderæ all expanded together on the same spike is also sent from the same collection, and is interesting because the older flowers frequently fall off when succeeding ones come out, sometimes when quite fresh.

The Cypripedium insigne with abnormal flowers figured at page 361 of our last volume is not flowering this season, as we learn from Mr. Appleton. We must wait until next winter to see if the peculiarity is permanent.

A two-flowered raceme of Lycaste Skinneri has been received from the collection of H. Gurney Aggs, Esq., Pippbrook, Dorking, and it is interesting to note that this is the third successive year in which the same thing has occurred. There are also seven single-flowered scapes on the same plant. It may be due to excess of vigour, caused by good culture.

A very pretty form of Cypripedium × Macfarlanei, called variety giganteum, has been sent from the collection of W. P. Burkinshaw, Esq., of Hessle, in which the dorsal sepal is over two inches broad, and the rest of the flower proportionate. It is a seedling from C. Spicerianum and C. × calophyllum, and the character of the former is especially conspicuous. A very fine form of C. villosum and Dendrobrium Findlayanum giganteum come from the same collection.

DIES ORCHIDIANÆ.

SEVERAL of the articles which appeared in the last two numbers of the *Orchid Review* have interested me a good deal. In the first place I would mention the important results obtained by Mr. Massee in his investigations on the "Spot Disease of Orchids" (page 19). It is always an important

matter to know the nature and habits of an enemy, otherwise, in groping about in the dark, all one's energy may be uselessly thrown away. Much difference of opinion has been expressed as to the nature of this disease, and those who contended for its fungoid origin had at least some plausible reasons for their opinion, but it is now clear that the real cause is a sudden chill when drops of moisture are on the leaves, and that the fungi afterwards found on the spots are only there because the decaying tissue affords a suitable nidus for their development. In this respect they differ from the **Vanilla disease, which is a true parasite.**

It is interesting in this connection to note that the late Mr. B. S. Williams always contended that the disease arose from wrong treatment, and was not infectious. Many years ago he wrote in his *Orchid Grower's Manual* "The spot is the dread of Orchid growers. . . . Some assert that it is infectious, but this we do not believe. Indeed, we should have no hesitation in placing a plant infected with spot amongst a quantity of healthy ones." He also pointed out that it was seldom troublesome under proper treatment. And it is further interesting to find that it was Dr. Lindley who first suggested the cause of the mischief. When at Hoddesdon two Phalænopses became affected with spot in the winter, and a leaf was sent to Dr. Lindley, who replied "'that the plants had been kept too moist during the cold dark days of winter' a reply which we have never since lost sight of. He was quite right, for it was a sharp winter, and these two plants had been kept wet by placing the bottom of the block in which they grew in a pan of water to keep off the cockroaches." Mr. Williams specially deprecated too much heat and moisture, as "under such exciting management they [the plants] are apt to become spotted and get permanently into a bad state of health—in short, the least chill, after growing in so high a temperature, is liable to induce disease." It is quite clear from these remarks what Mr. Williams thought was the cause of spot, and Mr. Massee's experiments not only confirm this opinion, but also show the precise way in which it is brought about, which is important, and goes far to indicate a **remedy, or, at all events, how to prevent it.**

The serious outbreak of Cattleya Fly noted at page 44. I would next allude to, if only to point a moral from the preceding paragraphs. Those who have it should try to find out all they can about it, for there is sound sense in the concluding lines of the article just alluded to. I have had no experience with the pest, but the remedies suggested seem worth trying. Stamping the pest out is obviously the proper course, if one only knew how to set about it. A friend suggests the advisability of burning the affected

stock and buying more, but, apart from the expense, there is the possibility that the new stock may also be affected, for it appears that it comes with imported plants. Better, I think, to try and find out all about its habits, in which case a remedy would almost certainly suggest itself. An eye should be kept on newly-imported plants, or those who have hitherto not been troubled with the pest may suddenly discover it in their collections.

The article on "Cypripediums with identical names" (pp. 11 and 37) is very suggestive, and indicates the growing confusion in the nomenclature of hybrid Cypripediums, to which I have alluded on more than one occasion. Mr. Young must have exercised a good deal of patience and industry in compiling the list, and I rather think that should he undertake to collect the Cypripediums with identical parentage he will find it a still greater task, to say nothing of the difficulty our Editor might have in finding space for it, without displacing more important articles. If it only brought about a better state of things the space would not be wasted, but the question is whether those who stand most in need of such an article would take the trouble to consult it. The one clear thing is that this rapidly growing confusion ought to be checked.

It is not alone in Cypripedium that many unnecessary names are continually being given, for I frequently see references to this fact in the *Revue*. Only last December I noticed that such a well-known plant as Eulophia guineensis had been re-described under a new name, together with Catasetum incurvum. In a similar way I see that the well-known Lælio-cattleya × elegans has been re-described under at least four different names, which is suggestive of a great deal. An article on the Manufacture of Synonyms would be instructive, if not altogether entertaining reading.

I was glad to see the enumeration of Lælia anceps varieties at pages 50 to 53, as it was in one of my first articles that I suggested the need for such a list. Information of this kind is generally so widely scattered as to be practically inaccessible, but with the characters of each variety briefly indicated, and arranged in something like sequence, it will in future be possible to determine, pretty nearly, at all events, any doubtful form. I hope to see more of such useful lists in the future.

Before concluding my present budget, I would allude to the interesting

"Hybridist's Notes" contributed by Mr. Mead. Both the subjects treated of are important ones, on which further information might profitably be contributed by others who have made experiments. And now that attention has been specially called to these points, additional observations are sure to be made. It is very curious to find that the influence of the pollen parent should be seen at such an early stage as the opening of the embryo, though such a thing might perhaps have been expected. But the subject of hybridisation is still almost in its infancy.

ARGUS.

BOTANICAL ORCHIDS AT KEW.

In the recently issued *Hand List* of Orchids cultivated at Kew, it is remarked that while the collection contains representatives of all the most beautiful and popular species, it is more particularly rich in others which at first sight are not particularly attractive, though, on careful examination, most of them will be found to possess no small degree of charm and interest. There are many collections in which a few of these so-called "Botanical Orchids" are grown, and a few notes respecting those in this representative collection may, perhaps, serve to draw more attention to a somewhat neglected but very interesting class of Orchids, many of which are easily grown, very floriferous, and take up but little space, though they are often somewhat deficient in the size or colour of the flowers as compared with their more favoured brethren. Armed with a good magnifying glass, however, some of them are found to possess charms quite unsuspected by the casual observer, and when grown in masses, as these plants should be, many of them are very attractive. Perhaps the term "Botanical" may be held to include all those which for various reasons are not generally cultivated, and these only it is intended to include. The usual showy species are, of course, equally well represented. It is hardly necessary to add that the plants are open to the inspection of the public every afternoon in the week, and attract a large number of visitors.

Perhaps the most charming thing noted in walking through the houses was a pan of Hæmaria Dawsoniana, bearing several of its dainty racemes of white flowers, which are not less beautiful than its elegantly variegated leaves. Some would deny it a place among botanical Orchids, but I think it can fairly be admitted. Maxillaria variabilis, in both its yellow and purple varieties, was flowering very freely, also M. ochroleuca and M. porphyrostele, whose names are both equally descriptive of their peculiarities. The dark purple column and light greenish segments of the latter afford a curious contrast. Allied to the preceding are the Ornithidiums, of which O. densum and O. confertum are two curious little species now in flower.

With few exceptions the species of Pleurothallis can only be termed botanical Orchids, and here were the curious P. immersa, something like a small P. Roezlii, but with the peduncle united to the leaf for a considerable distance, and P. longissima with long racemes of green flowers. Also two or three species of Stelis, whose flowers are remarkable for closing at various times of the day or night, and the curious little Scaphosepalum ochthodes, formerly referred to Masdevallia, were bearing numerous racemes: also Masdevallia melanopus. Of Restrepias were the curious R. ophiocephala, together with R. maculata and R. elegans, the two latter invariably being attractive.

Of the Dendrobium group may be mentioned the pretty little Australian D. Kingianum, and the very curious Megaclinium falcatum, while Erias included E. velutina and E. cristata, the latter bearing two-flowered racemes of white flowers from the axils of yellow bracts, the lip also being yellow. Tainia penangiana and T. latifolia were flowering freely, with the Philippine Pholidota conchoidea. Epidendrum was represented by E. fuscum and E. Spondiadum, the latter with light purple flowers, and Pomera by the curious little P. juncifolia. Among Saccolabiums were S. hainanense and S. Mooreanum candidulum, while Gomeza was represented by G. crispa.

Of Cypripediums may be mentioned C. Bullenianum, C. Victoria-Mariæ, and the interesting natural hybrid C. × siamense, also the Brazilian Selenipedium Sargentianum, though these are perhaps not more botanical than some other things not included in these notes, which might have been considerably extended by the inclusion of plants which are more generally cultivated.

CATTLEYA LUEDDEMANNIANA VARIETIES.

THE history of the handsome Cattleya Lueddemanniana was given at page 272 of our last volume, and we may now give an account of the different varieties which have been described, some of which are flowering at this season.

The first mentioned is the one called C. speciosissima Lowii by Mr. J. Anderson (*Gard. Chron.*, 1898, p. 404), but the description seems to apply to an entire importation of something like a thousand plants brought by Messrs. Hugh Low & Co. from Venezuela, and thus may be considered to represent C. Lueddemanniana generally, and not any particular variety. The description given seems to refer to an average or fairly typical form, of which a figure is given in *Reichenbachia* (ser. 2, I., p. 71, t. 34).

VAR. BUCHANANIANA (C. speciosissima var. Buchananiana, Will. and T. Moore in *Orch. Alb.*, VI., t. 261) is a fine form, which appeared in the collection of J. Buchanan, Esq., Morningside, Edinburgh. The sepals and petals are rosy lilac, the latter being three inches broad, and the front of

the lip rich magenta, which extends down the centre of the disc as a broad band between the two light yellow blotches. Thus it approaches the typical form very nearly.

Var. Regina (*C. speciosissima* Regina. Rchb. f. in *Gard. Chron.*, 1884, i., p. 372) is a very large form, which appeared in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, and is described as having the ovary, column, sepals and petals of a rich purple colour, while the lip is deep mauve with the usual yellow spots. Reichenbach described it as one of the grandest Cattleyas ever seen.

Var. Malouana (*C. speciosissima* var. Malouana. Lind. in *Lindenia*, I., p. p. 99, t. 47) appeared in the establishment (Compagnie Continental d'Horticulture, of Brussels, and has rosy magenta flowers, with the front of the lip somewhat spotted with a darker tint, and the disc similarly striated, almost obliterating the usual yellow blotches.

Var. Ernestii (*C. speciosissima* var. Ernestii. *Ill. Orch. Gr. Man.*, ed. 7, p. 186) appeared in the collection of T. Statter, Esq., of Whitefield, Manchester, and has deep magenta flowers, the lip profusely spotted with deep mauve. Thus it must come rather near the preceding.

Var. splendidissima (*C. labiata* var. brilliantissima, *Gard. Ill.*, I., pp. 569, 570, with fig.) appeared in the collection of W. Lee, Esq., at Downside, Leatherhead, and has deep rose flowers, with an amethyst-purple feathered blotch at the apex of the petals, and the front lobe of the lip maroon-purple.

Var. Roeblingiana (*Orch. Rev.*, III., p. 98) appeared in the collection of C. G. Roebling, Esq., of Trenton, New Jersey. The petals are 2½ inches broad, and light blush pink, with a purple stain along the middle of the upper half, and the front lobe of the lip rich purple crimson.

Var. Schroederiana (Rchb. f. in *Gard. Chron.*, 1880, i., p. 554) is a most beautiful form, which appeared in the collection of Baron Schroder, The Dell, Egham, and may be compared with *C. Mossiæ* Reineckeana in point of colour. The sepals and petals are white, also the ground colour of the lip, but the front lobe is broken up by a number of mauve purple lines, while the disc is also striped with rosy lilac on the orange-yellow disc. It was imported by Messrs. F. Sander & Co., who received a First-class Certificate for it at the Orchid Conference in 1885.

Var. alba (*Orchidophile*, 1880, p. 365) is a charming albino, which flowered in the collection of M. F. Finet, of Argenteuil, France, having been imported by M. Godefroy-Lebeuf. It is pure white with the exception of the usual light yellow disc. It is figured in the *Revue horticole*, ser. 2, II., p. 59, t. 74). It received a First-class Certificate from the Royal Horticultural Society on September 6th, 1892, when exhibited by W. R. Lee, Esq., of Audenshaw, Manchester.

A magnificent flower of the typical form has been sent from the collection of W. S. M'Millan, Esq., Maghull, near Liverpool, in which the petals are barely under 3 inches broad, and the rest of the flower equally well developed. Mr. Robertson, the gardener, writes that the house in which these plants are grown is 42 feet long by 12 feet broad, and 9 feet high, and that the plants are suspended in teak baskets in the centre of the house, together with Cattleya Warscewiczii, Dowiana aurea, Trianæ, and Lælio-cattleya × elegans, and that Cattleya Lueddemanniana is placed nearest to the ventilators. When the plant starts it grows very rapidly, and flowers as soon as, or just before, the young bulb is finished. The plants are kept very dry in the summer and also in winter, but twice a year, in spring and autumn, a considerable quantity of tree leaves is placed in the house. Lath roller blinds are used for shading, but a good amount of sun is given. Last year the plants grew and flowered twice, and this winter they are three weeks earlier than last, so that a second flowering is again anticipated. The plants are certainly grown with great success, as the present flower and two sent last year amply testify. This habit of growing and flowering occasionally a second time has also been observed elsewhere. It is a magnificent Cattleya when successfully grown, and deserves more attention.

DENDROBIUM SARMENTOSUM.

This pretty little Upper Burmese Dendrobium has now flowered in several collections, and on February 11th last Messrs. Hugh Low & Co., of the Clapton Nursery, received a Botanical Certificate for it from the Royal Horticultural Society, under the provisional name of D. fragrans. It is a native of the Shan States, Upper Burma, and is one of those mentioned by Mr. R. Moore in his interesting paper on the Orchids of the Shan States (*Supra*, III., pp. 169-172) as having been found within about 30 miles of Lake Inle (l.c., p. 171). It flowered with Messrs. W. L. Lewis & Co., of Southgate, in January, 1895, and shortly afterwards with Mr. J. W. Moore, of Bradford: and this year with Messrs. Hugh Low & Co., as above mentioned, and at Kew. It is allied to D. barbatulum, Lindl., and D. Fytcheanum, Batem., but in its branching habit reminds one of D. Falconeri, except that the growths are more erect. The flowers are about the size of those of D. Fytcheanum, and the sepals, petals, and front lobe of the lip are white, and the basal part of the lip very light green with numerous light brown radiating lines on the side lobes. The disc is very villose, as in D. barbatulum. The flowers are almost as fragrant as violets. The name is given in allusion to the sarmentose or very twiggy habit.

R. A. R.

DENDROBIUM FARMERI AND D. PALPEBRÆ.

A good deal of uncertainty has been felt as to the limits of the above two species, and as the latter has again appeared in cultivation during recent years a few notes about them will probably be interesting.

Dendrobium Farmeri originally flowered with W. F. G. Farmer, Esq., of Nonsuch Park, Cheam, Surrey, in March, 1848, when it was exhibited at the Horticultural Society's rooms, in Regent Street, and was awarded a Silver Banksian Medal. It had been received from Dr. McClelland, of the Calcutta Botanic Garden, in the previous October, as D. densiflorum, but, proving different, was figured and described by Paxton (*Mag. of Bot.*, XVI., p. 241, with plate). Various other figures subsequently appeared, but for a long time nothing was stated about the habitat, though it is now known to be a native of the eastern part of the lower Himalayan zone and the Khasia hills, also in the forests of Moulmein. The stems are quadrangular, and the flowers borne in long pendulous racemes, the sepals and petals being more or less deeply tinged with pink, and the disc of the lip deep yellow.

D. Palpebræ appeared shortly afterwards, having been received from Moulmein by Messrs. James Veitch & Sons, who flowered it in November, 1849, and shortly afterwards it was described by Dr. Lindley (*Journ. Hort. Soc.*, V., p. 33). It was compared with D. densiflorum, but is nearer D. Farmeri, having similar stems, but the racemes are shorter, the flowers are a little smaller, the sepals and petals white, and the lip not so broad. The name was given in allusion to the base of the lip being fringed with hairs, like eyelashes. It was discovered by Thomas Lobb. In 1860 a plant which flowered in the houses of MM. Jakob Makoy & Cie. at Liege, was figured and described under the name of D. Farmeri var. albiflorum (E. Morr in *Belg. Hort.*, X., p. 321, t. 21), which apparently belongs to D. Palpebræ. Nothing further was stated as to its origin. Subsequently it was also figured in *Flore des Serres* (t. 2401). In 1865 another plant, which had been introduced from Moulmein by Messrs. Hugh Low & Co., was figured and described under the name of D. Farmeri album Regel, *Gartenflora*, XVII., p. 321, t. 595), and this is precisely identical with D. Palpebræ in every respect.

In 1864 a plant flowered at Kew, which had been sent from Moulmein by the Rev. Mr. Parish, and was described and figured under the name of D. Farmeri var. aureo-flava. (Hook. *Bot. Mag.*, t. 5451.) Of this Mr. Parish remarked: "What if I were to say that Dendrobium Farmeri and D. chrysotoxum were one and the same? I know both of them extremely well, having had them growing for three years. There is no mistaking the two without the flowers. Two days ago, on going down into my garden,

I was astonished, and could hardly believe my eyes, at seeing a panicle of the golden flowers of D. chrysotoxum proceeding from the bulbs of D. Farmeri! the only difference being that the labellum is here rather more pointed, and not so round as in D. chrysotoxum." Sir William Hooker pointed out further that the fringe of the lip was also essentially different in the two species (and, he might have added, the bracts also), finally concluding that the new form was quite distinct from D. chrysotoxum, but only a yellow-flowered variety of D. Farmeri. Although so distinct from D. Farmeri at the first glance, further examination fails to reveal any other important difference beyond the colour. Like D. Farmeri, it is a very handsome plant.

R. A. R.

DENDROBIUM × ROLFEÆ VAR. CANDIDULUM.

THE history of Dendrobium × Rolfeæ and its handsome variety roseum are given at pages 113 and 114 of our second volume, where also both are figured. A most beautiful white variety has now appeared in the collection of T. A. Gledstanes, Esq., Manor House, Gunnersbury, which may bear the above name. It was obtained as an imported D. nobile, and agrees with the two above named in having lost the characteristic maroon blotch of D. nobile, only retaining the crimson-purple radiating lines at the base of the side lobes, and a paler stain between them. All the rest of the flower is pure white, with the faintest tint of pale sulphur on the lip. The pseudobulbs are slightly flattened at the sides. The variety roseum also appeared as an imported D. nobile, and presents the same arrangement of colour on the lip, while the apex is suffused with rose-pink, together with the whole of the sepals and petals. The original D. × Rolfeæ, on the contrary, is an artificial hybrid, raised and named by Messrs. F. Sander & Co., who state that D. primulinum ♀ and D. nobile ♂ were the parents. It has precisely the same arrangement of markings at the base of the lip, and the same absence of the characteristic maroon blotch, and, from this circumstance, one cannot avoid the conclusion that the two wild varieties are also hybrids from the same two species, which are known to grow together in Sikkim. That they are not mere varieties of D. nobile is clear, and the various points of agreement between the wild and artificially raised plants are too obvious to be overlooked. All three are charming little plants, and the present one particularly so, on account of its purity of colour. It would be worth while to make further experiments with these two species, using the choicer varieties of D. nobile as the parents. Other examples of the wild hybrid may be anticipated.

R. A. R.

CATTLEYA TRIANÆ AND ITS VARIETIES.

We have again received a series of flowers of this very polymorphic Cattleya, and may attempt to point out their relationship to the numerous existing varieties, of which we gave a complete account at pp. 114–119 of our last volume. The majority have flowered out of recent importations, and may not be absolutely identical with the forms previously named, but at all events they closely resemble them, so far as the descriptions enable us to judge. It is hardly necessary to add that this Cattleya is one of the most useful plants flowering at this season, as it is represented in almost every collection, and frequently in numerous forms.

Three forms from the collection of E. A. Bevers, Esq., of Oxford, may first be mentioned. Var. tricolor has the front lobe of the lip crimson-purple, the disc yellow, and the rest of the flower white. Var. Io has the sepals and petals deep blush, with purplish-rose lip, which becomes decidedly paler at the undulate margin. Var. delicata is well known as having uniformly light blush flowers, except for the yellow disc.

From the collection of John Powers, Esq., Swanswell, Coventry, comes a form responding to var. Backhouseana. The sepals and petals are light blush pink, and the latter have each a crimson-purple somewhat flamed blotch at the tip. The front of the lip is also crimson-purple.

Three other fine forms have been sent from the collection of John S. Moss, Esq., Wintershill, Bishops Waltham. One has blush pink sepals and petals, with the whole of the front lobe of the lip and apex of the side lobes rich purple-crimson, the throat being of the usual pale colour, with the yellow disc much reduced. This we should refer to the variety fulgens, or very near it. Another has sepals and petals blush pink, the latter being over 2¼ inches broad, and the front lobe of the lip rosy magenta, the disc being slightly veined. It may be referred to var. formosa. The third form has a remarkably open lip, even to the base, which gives additional prominence to the disc, which is yellow with a whitish margin. The front of the lip is purple-crimson. If the open lip proves constant, we are uncertain which variety this can be referred to.

A splendid flower of the beautiful albino, C. T. alba, from the collection of R. Brooman White, Esq., of Arddarroch, has the petals two inches broad, and the lip equally well developed: the throat deep yellow, and all the rest of the flower of the purest white.

A rather small form, with blush segments and the lip very prettily coloured, comes from the collection of R. B. Macbean, Esq., of Lancaster. A zone of white occurs round the deep yellow disc and inside the narrow pink margin of the side lobes, while the front lobe is purple-crimson. It is probably not yet fully developed.

NOTICE OF BOOK.

Hand-List of Orchids cultivated in the Royal Gardens, Kew. London. Printed for Her Majesty's Stationery Office by Eyre and Spottiswoode. 1896. 12mo., pp. 225.

A SERIES of Hand-lists of plants cultivated at Kew is in course of preparation, and the last issued is devoted to Orchids. The preface occupies twelve pages, and the remainder consists of an alphabetical enumeration of the species, varieties and hybrids in the collection, with the authority, native country, and as often as possible a reference to a published figure, for example -ACINETA BARKERI, *Lindl.* Mexico, Bot. Mag. t. 4203 -and thus will be very useful to those who are in any way occupied with Orchids. It is printed on one side of the paper only, and thus space is afforded for additions, if necessary. The list contains about 200 genera, 1800 species, and fifty garden hybrids. The preface contains much interesting matter about the collection, from which the following is extracted.

The collection of Orchids cultivated at Kew is essentially different from any, at least in this country, in the possession of a private collector, and perhaps its only rival is that of the Royal Botanic Gardens, Glasnevin. Its main object is botanical, and to represent the family Orchidæ in as comprehensive a way as possible. The scientific interest attaching to Orchids is very great. But even as regards form they can only be studied from dried specimens with great difficulty, and as regards their varied and remarkable structural arrangements and the striking mechanical contrivances for cross-fertilisation which they exhibit, they cannot be studied in the dried state at all. While the Kew collection contains representatives of all the most beautiful and popular species, it is more particularly rich in others which at first sight are not particularly attractive. Most of these, however, on careful examination will be found to possess no small degree of **charm and interest.**

Orchids have been continually cultivated at Kew from their earliest introduction into this country. The varied fortunes which have attended the collection practically reflect the history of the progress which has been made in the art of growing Orchids under artificial conditions.

In the first edition of Aiton's *Hortus Kewensis* 15 non-British species are enumerated as cultivated at Kew. Sir J. E. Smith wrote:—"We have scarcely seen any one species of this genus (Epidendrum), except in a dry state, before the year 1787, when E. cochleatum flowered at Kew, nor was it till October, 1792, that E. fragrans, of Swartz, exhibited its rich and elegant bloom in the same collection. At present, several species are to be seen flowering in the spring and autumn." In the work just mentioned, Phaius grandifolius was figured and described under the name of Limodorum

Tankervilliæ. A peculiar interest attaches to this plant because it was in it, and at Kew, that, in 1802, Francis Bauer, who was "resident draughtsman for fifty years to the Royal Botanic Garden," discovered and figured the "nucleus of the cell," an all important body, the first description of which was published by Robert Brown in 1833.

By the time the second edition of the *Hortus Kewensis* was issued, in 1813, the number of exotic species had grown to 84, belonging to 30 genera, the majority being epiphytal and natives of the West Indies, a few being East Indian, South African, and Australian. Roxburgh sent a number of species from India early in the present century, and of these John Smith wrote: "I found growing in 1822, on a shelf above a flue, against the back wall in what was then called the propagation house, the Aerides growing and flowering freely, its roots clinging to the back wall, as also Saccolabium guttatum. There were also plants of Dendrobium Pierardi and D. cucullatum flowering freely, which had recently been brought home from Calcutta by Mr. Pierard." At this period, with the exceptions above-mentioned, the Orchids at Kew "were potted in common soil and plunged to the rim in a tan bed."

According to John Smith (*Records*, pp. 229, 230), "Between the years 1823 and 1825 a considerable number of species were received from Trinidad, forwarded by Mr. David Lockhart, the Superintendent of the garden, amongst which were the first plants of Stanhopea insignis, Oncidium Papilio, Lockhartia elegans, Catasetum tridentatum, Ionopsis pallidiflora, and others, all of which were epiphytal, and many of them being sent growing on portions of branches as cut from the trees, which, being accompanied by instructions from Mr. Lockhart as to how they should be treated, led to the successful cultivation of epiphytal Orchids."

In 1845 the span-roofed house which now forms the east wing of the Tropical Fern House was erected on the site of an old stove, and Sir William Hooker described it in 1846 as "occupied with a rich and inestimable collection of orchideous plants (of which a great proportion was presented by Her Most Gracious Majesty." This gift was recorded by him in 1844 as the entire and valuable collection of orchideous plants formed at Woburn Abbey, which, on being offered to her by the present Duke of Bedford, Her Majesty was graciously pleased to accept and to send to the Royal Gardens at Kew." Continuing Sir William Hooker's account of the house: "the centre is filled with a handsome slate staging so large as to admit of a raised walk through the centre, thus enabling the visitor to look down upon each side of the house, while over his head, and from the rafters on either hand, are suspended wire baskets filled with tropical epiphytes. . . . As the house in question opens on to another and cooler stove . . . we are enabled to remove the splendid epiphytes when in bloss[om] to a less

heated atmosphere, and thus preserve them in beauty for a much longer time."

In 1846 the collection was further "increased by the noble bequest of the Rev. J. Clowes, of Broughton Hall, near Manchester, who willed his splendid collection of *Orchidæ* to the Royal Botanic Garden."

According to John Smith (*Records*, p. 235) "in 1848 the number of species cultivated at Kew amounted to 755, and in 1850 to 830." By the same authority it is stated in 1864 to have been 638. Four years later the *Botanical Magazine* records about 400, but in 1872 the number of species and varieties in cultivation was 851, belonging to 138 genera. Since then the collection has steadily increased, and in 1891 a list of those which flowered in the previous year, 766 in number, appeared in the *Kew Bulletin*.

Speaking of hybridisation it is remarked: "The great range of species which Kew has at its command suggests attempts of this kind. And in the genus *Disa* it has produced crosses which are easy of cultivation and will probably become popular as ornamental plants."

LYCASTE × IMSCHOOTIÀNA.

THIS handsome hybrid was described at page 8 of our first volume, and it may be remembered that there was some doubt about its parentage. It was a seedling from Lycaste Skinneri, but Maxillaria nigrescens was said to be the pollen parent. We, on the other hand, could see no evidence of this, but found strong indications of the influence of Lycaste cruenta, which we had no doubt was the other parent. M. Van Imschoot has now written confirming this opinion by documentary evidence. He has discovered among his records that both the above named crosses were made, but that it was the cross with L. cruenta from which L. × Imschootiana was obtained, not from the other, as was at first thought. This is very satisfactory from every point of view. M. Van Imschoot sends a flower from the original plant, together with one from another seedling out of the same batch, which has decidedly larger and paler flowers. The sepals of the original one are nearly $2\frac{1}{4}$ inches long by over an inch broad, while the other is half-an-inch longer and proportionately broader. The ground colour of the latter is cream colour instead of light yellow, and the purple-red dots rather less crowded. The latter, which comes a little nearer to L. Skinneri, may be called variety pallida. Both show the most unmistakable evidence of the influence of L. cruenta, both in the shape and colour of the lip, and in the hue of the sepals and petals. They are certainly very handsome.

CYPRIPEDIUM NIGRITUM.

Some time ago Messrs. Hugh Low & Co., of Clapton, imported a Cypripedium from Borneo, which they suspected might prove new, as it differed in the foliage from any of the known species from that island. It has now flowered, and although quite different from any of the well-known species, is still probably not new, for there is one Bornean one which, though described fourteen years ago, is still practically unknown. The following is the original description :—"A Bornese introduction of the New Bulb Company, Lion Walk, Colchester. Leaves like those of Cypripedium virens, light green, with darker reticulations. The flower comes near to that of Cypripedium barbatum. The colours are those of a very dark variety. The odd sepal is oblong, acute, not almost circular, thus coming nearer that of Cypripedium purpuratum. The veins stand much nearer to one another. The petals are much narrower, and the marginal warts stand partly over the middle to the apex. The equal sepals form a very narrow body. There are obscure warts on the stalk of the lip. Stammode like that of Cypripedium barbatum, but with intermediate small teeth in front, and longer angles on each side of the dorsal sinus. Thus it is near Cypripedium barbatum, but it appears quite distinct." Rchb. f. in *Gard. Chron.*, 1882, ii., p. 102.

Whether this plant has anywhere lingered in cultivation is doubtful, at all events I have never been able to ascertain what it really was, though I believe that Messrs. Low have now re-introduced it. Their plant, at all events, has leaves closely resembling those of C. virens, the dorsal sepal is much smaller than in C. barbatum, with which the species can perhaps best be compared; the petals are much narrower, and the warts extend nearly to the apex; and, lastly, the stammode agrees fairly well with the above description. There are one or two discrepancies, but these may be more apparent than real, for it frequently happens that the first flowers produced after importation are somewhat abnormal, and it is most unlikely that there should be in Borneo two different species each possessing the characters above pointed out. We have here another example of the difficulty of identifying a species from an imperfect description, when the original specimen is carefully hidden away so that no one can possibly refer to it. If there should be any one who saw the original C. nigritum, or who knows of any existing plant, I hope they will help to clear the matter up, for under the circumstances the above identification can only be a provisional one, and there is another curious form in cultivation rather near C. barbatum, but with a very narrow dorsal sepal, which was at first thought to be abnormal, and of which no one seems to know the native country. It is to be hoped that materials will in time be forthcoming to settle these

doubtful points. In colour, Messrs. Low's plant much resembles C. barbatum, but is not equal to it in point of beauty.

R. A. R.

AN AMATEUR'S NOTES.

Since my last notes were written things have come on very rapidly, owing to the genial weather, and a host of beautiful Orchids are now in full bloom. Cattleyas Trianæ and Percivaliana have been very good, the former in several light and dark varieties, and the supply is not over yet. A good C. Lueddemanniana has now come out, and some fine trusses of C. amethystoglossa, which is a noble plant when well grown. The two Lælias now in flower are L. harpophylla and L. glauca, and both are very good. Phalænopsis Schilleriana, P. Aphrodite, and P. Stuartiana are as beautiful as they always are at this season, and the former, especially, is superb.

The Dendrobiums are now making the greatest show, and include several forms of D. nobile, some magnificent Wardianums, D. Findlayanum, D. luteolum, D. Hildebrandii, and among hybrids D. × Ainsworthii, × Leechianum, × Cassiope, and × chrysodiscus, are now the best. Three fine pans of Cœlogyne cristata, with its beautiful varieties alba and Lemoniana, form a charming trio. I cannot imagine an Orchid better worth growing than this, for it gives very little trouble compared with the display it makes at this season. Ada aurantiaca invariably blooms well about this time of year, and is a plant which everyone should possess, on account of its unusual colour. Oncidium splendidum, O. tigrinum, and Lycaste mesochlæna are also flowering well. No one who has a warm house, or even an ordinary stove, should be without some plants of the good old Phaius grandifolius, which never fails to throw up some fine spikes every season, and when well grown is a really noble plant. P. maculatus, too, on account of its spotted leaves, is worth growing, and is now in flower. Aërides Vandarum and Saccolabium bellinum are also too good to be overlooked just now.

The Odontoglossums are coming on well, and include some good forms of O. crispum and luteopurpureum, O. gloriosum, and the natural hybrids O. × Andersonianum and O. × Wilckeanum, together with many of the Mexican species, as maculatum, nebulosum, Krameri, Œrstedii, pulchellum, and Rossii, the two latter flowering very freely. Cochlioda rosea is also very good. The spring-flowering Cypripediums are coming on well, some flowers of callosum and Argus being already out. A large number of other brilliant things are throwing up strongly, and among them that recent acquisition, Eulophiella Elisabethæ, and these will form matter for future notes.

AMATEUR.

CATTLEYA TRIANÆ ARKLEANA.

THE subject of our present illustration (Fig. 5) is the beautiful Cattleya Trianæ Arkleana, which was described at page 103 of our last volume. As there pointed out, it flowered in the collection of John W. Arkle, Esq., of West Derby, Liverpool, from an imported plant, and proved quite exceptional in its brilliant colour. Its perfect shape and beautifully undulate petals and lip are seen in the annexed photograph, which was kindly sent by Mr. Arkle with the original flower, and its dimensions may be inferred when we state that the petals were fully 2½ inches broad. The colour of the sepals, petals, and base of the lip is beautiful blush pink, and the front

Fig. 5 —CATTLEYA TRIANÆ ARKLEANA.

lobe of the lip glowing purple-crimson, which colour extends round the apex of the side lobes and right into the throat, completely obliterating the yellow blotches so characteristic of this species. As regards colour it is comparable with the brilliant C. Warscewiczii saturata. Mr. Arkle now writes, that the flowers are again expanding and are the same in form and colour as last year, but, he thinks, a little larger. It was imported from Popayan, and is a good robust piece, with three leading bulbs, two of which carry each two flowers, and the third only one. It was the first Cattleya Trianæ Mr. Arkle acquired, and he must be congratulated on obtaining so

exceptional a variety, for it is as good in form as it is brilliant in colour. Last year he obtained a number of others all imported plants—which have not turned out quite so well as they should have done, owing, it is thought, to a spell of warm weather which set in just as they had finished off their bulbs, when they again started into growth. It is hoped that this season they will settle down and do better. We do not know if others had a similar experience with this species last season.

THE HYBRIDIST.

MASDEVALLIA × ACIS.

ANOTHER very interesting hybrid Masdevallia, has now been added to the remarkable series raised by Captain Hincks, of Richmond, Yorks., to whom we are indebted for a photograph and a two-flowered raceme. It is a seedling from M. abbreviata, but, unfortunately, there is a little uncertainty about the other parent, though a glance at the flower shows a multitude of those remarkable iridescent violet hairs, which can only have come from M. Veitchiana or some hybrid derived from it. Captain Hincks made two crosses with M. abbreviata, using the pollen both of M. Veitchiana and M. × Chelsoni, and sowed seeds from each cross, but is uncertain from which the present seedling was derived. M. × Chelsoni was obtained from M. amabilis ♀ and M. Veitchiana ♂, and we are inclined to think that M. × Chelsoni rather than M. Veitchiana, was one parent of the present seedling. This, however, is only because of the small size of the flower of the present one, for we fail to trace any other direct influence of M. amabilis in it. Further experiments may, perhaps, settle this doubtful point, and the cross with M. Veitchiana, at all events, should be repeated. In habit, the plant most resembles M. abbreviata, though the scape is taller, and, at present, only two-flowered. The flowers, too, approach those of this parent in shape, though modified in size, shape, and colour. The sepals are eight to nine lines long, divided to the middle, and the tails about two lines longer still. The sepals inside are strongly suffused with orange-yellow, very little of which is apparent on the dorsal one, but all are densely covered with the remarkable iridescent violet hairs of M. Veitchiana, while on the inner angles of the lateral ones are the characteristic purple spots of M. abbreviata, but more maroon in colour. The petals and lip also resemble those of this parent in shape, the former being white, and the latter much spotted with maroon-purple on a yellow ground. It is a very pretty little plant, and remarkable because the parents belong to such different sections of the genus. We believe it is the first hybrid raised from a species of the Amandæ, or M. polysticta group.

Masdevallia × Shuttryana var. Chamberlainii.

A very handsome variety of Masdevallia × Shuttryana has been raised in the collection of the Right Hon. J. Chamberlain, M.P., by Mr. Burberry, of which we have received a flower. The original type, as may be remembered, was obtained by crossing M. caudata Shuttleworthii ♀ and M. coccinea Harryana ♂, and flowered in 1892, in the collection of Sir Trevor Lawrence, Bart. The present one is the reverse cross, according to a letter from Mr. Burberry, and is a great improvement on the original. The perianth measures 1½ inches long, and is divided to the middle, while the tails are rather longer than this, the dorsal one being 2½ inches long. The flower is about intermediate in shape between the parents, and the colour is light rose-purple, except on the dorsal sepal, which is whitish yellow, veined and suffused near the margin with light rose-purple. This organ much resembles M. caudata in shape, and some minute darker spots on the lateral sepals show the influence of the same parent. The petals and lip are intermediate in character. It is a very pretty hybrid, and received an Award of Merit from the Royal Horticultural Society on February 11th last.

Cypripedium × Lloydiæ.

This is an interesting little hybrid raised in the establishment of Messrs. F. Sander and Co., St. Albans, from Cypripedium Godefroyæ ♀ and C. venustum ♂, of which we have received a flower from the collection of R. H. Measures, Esq., The Woodlands, Streatham. The vegetative organs we have not seen. The flower is quite intermediate in shape, though on the whole it most resembles the mother plant. The dorsal sepal is ovate, acute, concave, over 1¼ inches long, and with about nineteen light green lines on a pale whitish ground, and a few traces of purple spots on the nerves. Petals oblong, 2 inches long by ten lines broad: the ground colour pale yellowish white with a few dull purple blotches and many minute spots, mostly on the nerves, and in some cases slightly suffused. Lip oblong, equalling the petals, and whitish yellow with greenish yellow nerves, except round the mouth, where they are dull purple. Staminode reniform, apex obscurely tridentate, colour yellowish, veined and suffused with dull purple except round the margin. The characters of the pollen parent are most strongly represented in the dorsal sepal and in the veining of the lip. **It is a very distinct little plant.**

Masdevallia × Curlei.

A pretty hybrid raised in the collection of A. Curle, Esq., Priorwood, Melrose, N.B., from M. macrura ♀ and M. tovarensis ♂. The leaf and scape most resemble the seed parent; the latter is 10 inches long, and bears one or two nearly white flowers, with a few minute purple dots on the face, a slight blush tint at the back, and pale greenish tails. The column, lip,

and bases of the petals show some purple spots and stripes, as in the seed parent, whose influence is less aparent in the flower than in the vegetative organs.—O'Brien in *Gard. Chron.*, Jan. 11, p. 40.

CALANTHE ROSEA AND C. RUBENS.

SOME interesting facts respecting these two species have come to light in a series of plants which have recently flowered in the collection of A. Worsley, Esq., of Isleworth. A batch of imported bulbs was offered for sale at one of the auction rooms, and was purchased by Mr. Worsley. A number of them began to push up spikes, and on flowering, proved to be the well-known old C. rosea, to which it was then thought all belonged. Other plants pushed up later, and these proved to belong to C. rubens, a species of comparatively recent origin. An interval of over a month elapsed between the flowering of the two species, which are so much alike that until the very different flowers appeared no difference was observed. C. rubens is a native of the Langkawi Islands, lying off the west coast of the Malay Peninsula, whence also Messrs. Hugh Low & Co. have obtained C. rosea, and these facts probably serve to fix the origin of the batch of bulbs obtained by Mr. Worsley. Of course the two species are thoroughly distinct, for C. rosea has an entire lip, while in C. rubens that organ is strongly four-lobed, as in C. vestita: and both are charming little plants when well grown.

C. rosea was first discovered by Thomas Lobb, near Moulmein, and flowered with Messrs. James Veitch & Sons in December, 1851, being originally described and figured by Dr. Lindley, under the name of Limatodes rosea (*Paxt. Fl. Gard.*, III., p. 55, t. 81). The Rev. Mr. Parish also found it in the same locality, and sent plants to Messrs. Hugh Low & Co., one of which was figured in the *Botanical Magazine* (t. 5312). In 1881 it was transferred to Calanthe by Bentham (*Journ. Linn. Soc.*, XVIII., p. 309), and has rightly been known as C. rosea ever since. I am not aware that the Langkawi locality has previously been recorded, but its discovery there, at such a distance from the original habitat, is particularly interesting.

C. rubens was described in 1890 by Mr. Ridley (*Gard. Chron.*, 1890, i., p. 588) from specimens brought from the Langkawi Islands by Mr. Curtis, and plants were sent to England, which in due time flowered, and those which flowered with Mr. Worsley are identical. The plant described by me in 1892 under the name of Calanthe vestita Fournieri (*Gard. Chron.*, 1892, i., p. 488) must also apparently be referred to the same. It came from Messrs. F. Sander & Co., of St. Albans, with the record that it had flowered with M. Fournier, of Marseilles, and had been introduced from

Borneo, though as to the latter point I am now convinced that some mistake has been made. I originally pointed out its evident affinity with C. rubens, which I had not then seen, and now I think the two are identical. In this case the species is very variable in colour, for there were two rose-pink forms, one darker pink, one blush, and one pure white, and the two latter may be termed varieties delicata and alba. The flowers are smaller than in C. vestita, to which it is nearly allied, though the exact relation it bears to this and allied forms still remains a little doubtful.

R. A. ROLFE.

A TRIMEROUS CYPRIPEDIUM.

A VERY curious flower of Cypripedium × Harrisianum, sent by M. Stemmetz, of Bruges, is noted in the *Gardener's Chronicle* for February 22nd (p. 238). It is described as having three sepals (the two lower ones being detached one from the other), two lateral petals, and a lip. The column, which is the most remarkable feature, has three shield-like staminodes, representing the outer stamens, A 1, A 2, and A 3, of Darwinian notation, and three perfect anther-bearing stamens corresponding to the inner row, viz., a 1, a 2, and a 3. It is remarkable that all the six stamens should have been thus developed, as the lip appears to have been of the usual character, in which case it is difficult to account for the presence of A 2 and A 3 as separate organs. It would be interesting to know whether the stigma was developed, and whether each stamen was traced to its source. Abnormal flowers are frequently very instructive, but the condition of the present one is rather a mystery.

ODONTOGLOSSUM CRISPUM AUREUM.

A MOST brilliant variety of Odontoglossum crispum has been sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens, which may be referred to the above. The original plant was exhibited by F. A. Philbrick, Esq., of Bickley, at a meeting of the Royal Horticultural Society in February, 1884, and received a First-class Certificate. It is described as having sepals and petals deep lemon yellow, the former being spotted with brown, and the lip yellow, having two brown spots on the anterior part. This practically describes the one now sent, which Mr. Stevens remarks flowered in February, 1883, but he does not remember to have seen it since. Mr. Thompson received an Award of Merit for one bearing the same name on June 12th, 1884, but how far it differs from the present one we cannot say, as the point does not appear to have been recorded.

SEASELL'S PATENT ORCHID BASKET.

IMPROVEMENTS in Orchid baskets now chiefly take the form of arrangements for preventing the water supplied to the plants from running off at the sides without passing through the compost, and thus failing to do its proper work. It is partly in order to avoid this that dipping the plants has been so largely practised, though there is the further reason of wishing to avoid the dripping of water on to the plants growing beneath, which is an equally important matter. Some time ago we gave an illustration of the West Patent Orchid Basket, in which, by an ingenious arrangement of the top and side bars, the water was deflected inwards, and thus was obliged to pass through the compost. Messrs. Edward Seasell and Son, of Sheffield, send us a specimen of their Patent Orchid Basket, in which the same end is secured by a different arrangement, namely, of making the top of the basket out of one solid piece of teak, in which a large circular saucer-shaped opening is made, something like the rim of a pot. The basket is well and substantially made, and the above illustration will give a good idea of its general character. It is claimed that by its use not only must the water thoroughly moisten the compost, but that the four corners being left on, prevent the loss of water by too rapid evaporation, while the solid top gives entire rigidity to the basket, and also facilitates the potting of the plants. It received a Certificate of Merit at the Sheffield Chrysanthemum Show last November.

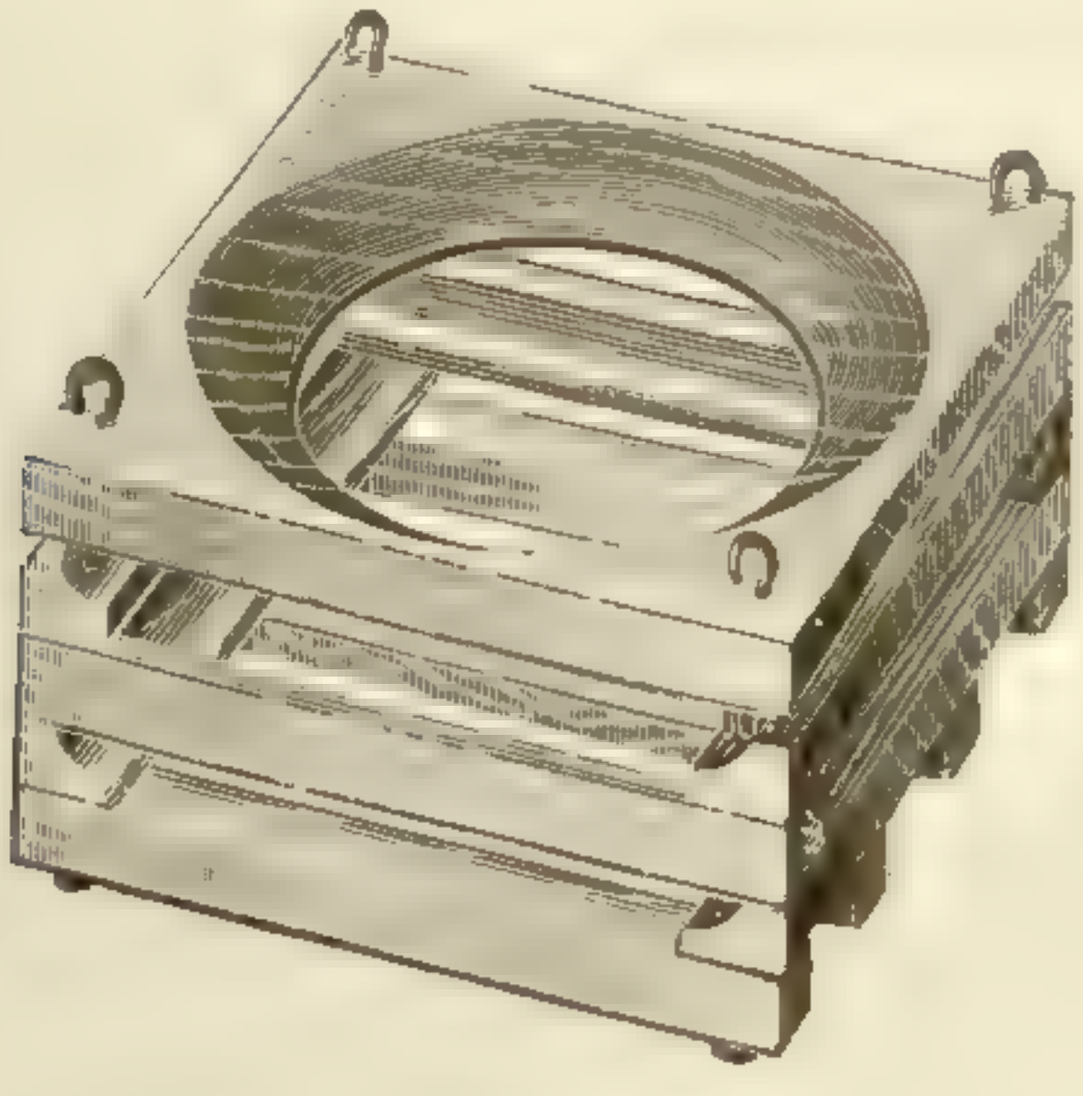

FIG. 6.—SEASELL'S PATENT ORCHID BASKET.

THE CATTLEYA FLY.

In 1890 I got the above fly with some imported Lælia purpurata, and can feel for anyone who has the pest. I tried fumigating, lighted candles at night, cutting off infected pseudobulbs and piercing with a needle where I saw the young growths had got the grub at work, but found these methods were of no use whatever. I then let the new pseudobulbs get full grown, and by drawing a *soft* hand up and down them could detect where the grub was located, by feeling a slight and often a decided protuberance on the pseudobulb. This we cut open with the smallest knife we had, and got out from one to five grubs, some of which were straw colour and others dark brown. It is quite easy to find the grubs by this method, without even looking at the bulbs. By observation we got to know when to expect the flies to come out and caught about twenty, and very beautiful they are when newly out of the bulb: it is long, with a blue body and yellow markings. If I should get the fly again, I should not wait for its coming out, but pierce the protuberances with a very fine carpenter's bit, as a knife makes a rather clumsy looking hole. The time when I got the flies out of the Lælia purpurata was just after this period, and they come out between **10 and 11 a.m., when the sun is bright and warm.**

JAMES HAMILTON.

BYRKLEY GARDENS.

DENDROBIUM RUCKERI.

This rare but pretty little Dendrobium is now flowering freely at Kew from plants recently sent from India, and it is now evident that the locality originally published is erroneous. It originally flowered in the collection of S. Rucker, Esq., of Wandsworth, in 1843, and was described by Dr. Lindley (*Bot. Reg.*, XXV., *Misc.*, p. 25), who remarked "A Manilla plant which has lately flowered with Mr. Rucker. It is sweet-scented, handsome, and distinguished by its clear nankin-coloured flowers, the lip of which is a little stained with rose-colour." Immediately afterwards it was figured (*l.c.* t. 60), when the author added "We presume it to be one of Mr. Cumming's discoveries in the Philippines, although no trace of it is to be found among his dried specimens." A drawing from Calcutta however, shows it to be a native of the Khasia hills, besides which it has been met with at Nimbong, in Bhotan, at 4000 feet elevation, by Mr. Lister, which effectually disposes of Lindley's doubtful locality. **It has the general habit** of D. luteolum, to which it is most allied, but has smaller flowers, with **narrower segments, and the side lobes of the lip regularly striped with light** reddish brown. The central line of the lip is strongly villose. **It is interesting to be able to clear up its history.**

R. A. R.

CALENDAR OF OPERATIONS FOR MARCH.

By H. A. BURBERRY, Highbury, Moor Green, Birmingham.

THE temperature for the month should range as follows:

THE COOL HOUSE.—Day, with sun, 60 to 65 : without sun, 55 to 60 : night, 55°; morning, 50° to 55°.

THE INTERMEDIATE HOUSE.—Day, with sun, 70 to 75° : without sun, 65° to 70°; night, 60° to 65°; morning, 58° to 60°.

THE WARM HOUSE.—Day, with sun, 80 to 85 : without sun, 70 to 75°; night, 65° to 70°; morning, 65°.

The days are now lengthening and the light becoming stronger, therefore we may gradually increase the supply of water at the roots without so much fear of bad results following.

Ventilate freely on all suitable occasions, both night and day, more especially in the Cool departments. Beware, however, of the piercing east winds, which are accompanied sometimes by bright sunshine, running the thermometer up rapidly, and ofttimes prompting the cultivator to put on too much air. Rather than do this use the roller blinds, which should now be in position, and at the same time keep the ventilators closed.

The season of growth is now at hand, and, with more solar warmth, the plants will soon begin to push out new roots and growth. When this is seen they may be re-potted or top-dressed. Increase the supply of moisture atmospherically by thoroughly damping down twice daily, morning and evening. Repotting may now be said to have commenced in earnest; on every hand are to be seen plants which require attention, and many others are hastening on to that goal, therefore it is necessary to be on the alert to keep pace with the times.

The Anguloas, I see, are pushing forth new growth and flower buds, which appear simultaneously. If it is necessary to repot them this month is a good time to do it, for if left until they have passed out of bloom the growth is far advanced, which renders repotting irksome and dangerous. These plants grow best in pots, and the compost should consist of two parts of good lumpy peat to one part of sphagnum moss. After repotting, the plants should be watered with care, enough being given to keep the compost just moist, until the roots have commenced to take hold, when they may be watered more freely, and given occasional doses of weak liquid manure until the pseudobulbs are matured, when they should be well rested throughout the winter in the coolest house, well up to the light.

Thunias, too, should now be repotted. They are best grown in pots, about four strong bulbs to a 32-sized pot. As each bulb will have its old roots removed entirely away, it will require to be made firm in its position by the aid of a stick thrust in the compost, which should be a mixture of

fibrous peat, loam and silver sand. Let the pots be drained half full with crocks, and press the compost in moderately firm. Give but very little water until the new growths are about six inches high, which will tend to keep the pseudobulbs dwarf, and generally ensures free blooming. After this water may be given with greater freedom, with a little weak manure water occasionally. Let Thunias be grown in the full sun, in such a house as the Mexican or Cattleya house, or they will also grow well and strong in the warmest house, but they are not quite so reliable to flower.

An eye should be given to the Habenarias, which have been enjoying a rest: they will soon now push new growth from the crowns, and when this is seen to be taking place they should be repotted. They are best and most successfully managed if grown singly in small pots, a large 60 being big enough for one large tuber. Let the crown of the tuber be level with the rim of the pot, and let the pot also be filled up level to its rim with broken crocks, peat, and sphagnum moss. Water carefully at first, and place the plants well up to the light in a warm genial house, such as would suit Dendrobes that are just starting. As time and growth advances so will the **plants delight in a larger supply of water.**

Bolleas, Pescatoreas, Stenias, Warscewiczellas, and such like Orchids, many of which will now be passing out of flower and breaking anew to form fresh growth, should now be attended to and repotted. There are some very beautiful and most interesting things amongst them, especially in the two first named genera, but they are not the freest of all to grow, and hence they have fallen out of cultivation somewhat. To get them to do well generally requires a little management. The most important point, however, is to find a suitable position for them, and this must be sought for in the warmest house—that is, either the East Indian House, or an ordinary stove—at a part which is rather shady and which keeps pretty regular in temperature and is naturally moist. Bright sunshine is harmful, but they do not require to be kept so heavily shaded as is sometimes supposed, especially when their position suits them in other matters. They may either be grown in pots or in baskets, and both answer equally well, though of the two I prefer the former. The pots should be crocked three-parts their depth with quite clean crocks and charcoal, a stout stick should be fixed firmly in the centre, to which the plant can be made steady and well elevated above the rim, so that the sphagnum moss—I never use peat to these—may be built up conically to its base from where the new roots appear. They are fond of a good supply of water when growing freely during the summer, but during winter will take much less, in fact the moss may then get quite white and crisp before water is applied. Of course this last is one of those little matters in which the weather should **be the principal guide, as with all other Orchids.**

The deciduous Calanthes must not be potted up too early. Let the new growths get an inch or two long first, and that will not be before the beginning of next month. On the other hand, the evergreen kinds, such as C. Masuca, C. veratrifolia and others, should either be repotted now or held over until the flowering season is past about May or June. These Orchids grow best if potted up in a good rich compost, such as fibrous loam, leaf-soil, and lumpy peat mixed together. The pots should be thoroughly well drained nearly three parts their depth, so that the water -of which they like a good supply during summer —may pass away quickly from the roots. They are best grown in intermediate temperature.

There are a number of other Orchids which are best suited with exactly similar treatment to that which the Dendrobiums best enjoy, and which have been resting with that genus during the winter in intermediate temperature; such will again be moving into active growth and must not now be neglected. These are the Mormodes, Catasetums, Coryanthes and Cycnoches. The culture these genera require is nearly identically the same. They are all most likely to give the best results if grown in baskets in the Warm house, and in a very light position. The compost should never be allowed to get sour for want of renewing; certainly two years should be the outside limit, in fact, I think it is better to make a practice of giving new sweet materials for the plants to root in annually. Such would be the best safeguard against their deterioration, which it is well to avoid, for when this takes place some trouble is experienced before they are again brought to a sound state of healthy vigorous growth. Employ the best of fibrous peat and sphagnum moss in equal proportions, and make quite sure that the plants are tied firmly to sticks, or to the wires of the baskets, or they shake about when being handled, and the roots are unable to get a firm hold, which is most undesirable. The above cultural remarks will also apply to the Chysis, which are just starting to grow and will soon be showing their flowering spikes. Re-basket the plants after blooming. Of the pretty blue Acacallis cyanea similar remarks may be made, and this should now be given new materials. Now is also a good season to repot Phaiuses of the grandifolius type, also the Eulophia guineensis. The compost advised above for the evergreen Calanthes suits them admirably, and they should be given the warmest house.

Continue to repot or re-basket any of the Dendrobiums that need it as soon as possible after they have passed out of their flowering stage, and afterwards place them in their proper growing quarters, where they will be gradually inured to more warmth and moisture as the spring advances. **D. formosum is a very handsome Orchid, and comes in very useful during the autumn months.** It is not an easy one to keep in good health, and must have plenty of warmth to do so. It should be grown in small pans

or baskets, and suspended at the hottest part of the house. It is best to re-basket, or to pick out the old compost and supply fresh annually, and this should be done just as the new growths begin to push forth. D. Lowii, D. Bensoniæ, D. bigibbum, D. Dearei, D. Macarthiæ, D. macrophyllum, and D. Phalænopsis require similar treatment. A very pretty and very cool-growing Orchid in flower just now is Odontoglossum × aspersum. It is a natural hybrid between O. maculatum and O. Rossii. This hybrid varies very much in detail, like its parents, some forms being washy in colour, whilst others have a groundwork of a beautiful golden yellow, blotched and barred with bright chestnut-brown, and these are great acquisitions to the group.

I mentioned in my last Calendar a few beautiful Oncidiums which love the temperature of the Cool house. There is another section of the same genus which I would here mention as doing best in the same department, supposing one important point be strictly observed, and that is to see they are kept dry after flowering in the autumn, and throughout the winter months. I refer to those lovely species which brighten up the house with their vivid colours in the dull autumn and early winter months, when there are but few other things in bloom, such as O. Forbesii, O. crispum, O. varicosum, and its large variety, Rogersii, O. tigrinum, and O. t. unguiculatum. With the exception of the last two, these are best grown suspended, and all during the season before mentioned must be given but little moisture. They will now, however, begin to grow, and will require more water, gradually supplied. They are Orchids that do not take well to root disturbance, but this must be done about once in two years, as it is most important their roots should be kept in a sound, healthy condition. This operation should be done when the new growths are an inch or so high.

One of the most useful Cœlogynes is the old and well-known C. cristata, and it is very easily cultivated. It is best not to pull this species about too much when repotting. Unless the pseudobulbs are growing over the rim of the pot it will scarcely ever require to be taken out of it, but simply fill in any hollow places with fresh peat and moss, without which the plant would in time get loose and shaky, presenting a more or less starved appearance, and small under-sized growth resulting. It will now soon have finished flowering and will be starting into growth, and this is therefore the best time to do it up. Cœlogynes delight in a liberal supply of water during the growing season, with frequent supplies of weak liquid manure. After growth is completed they should have a long dry rest throughout the winter months, or they fail to bloom satisfactorily. The Mexican and Cattleya house temperature is the most suitable for C. cristata, as indeed it is for most of the genus: for instance C. Sanderiana, C.

Massangeana, C. fuscescens, C. corrugata, C. barbata, C. ocellata and most others, though C. Dayana, C. speciosa, C. Parishii, C. pandurata, and C. asperata are the better for a little more warmth.

Be careful still with the watering of all Orchids, especially those kinds which have for the past few months been quite dormant. Generally speaking all will require an increase, but it should be very gradual, for until there is greater activity with the roots and growth, and until we can rely upon more assistance from the outside conditions of the weather, a little will still suffice to keep the plants healthy. I have written a good deal on watering because I am convinced it is a most important subject. I have attempted to deal with the matter previously so as to enable readers to form an idea as to the quantity of water required at the various seasons of growth. But I find it is no easy task to write down instructions that are not absolutely free from the fault of being liable to be misunderstood by beginners in Orchid culture. It is one of those lessons which cannot be taught by theory alone, but requires a certain amount of practice before the artificial requirements of an Orchid can be known. When once this is grasped it is soon seen how perfectly simple it is, and the cultivator will then withhold or apply water without hesitation or delay, whereas previously he paused in timid doubt, not knowing what was right to do. Like everything else it is so simple to do when one knows. For those who do not understand, the happy medium policy is the best one to adopt, for in keeping too dry there is a danger of starving, and this is equally as bad as keeping too wet. I don't know if I have ever stated exactly my own practice in watering, but if not it is through fear of misleading. During the winter months one day in the week only is here set aside for watering, but during the summer we allow two days, which are generally Saturday and Tuesday. Most plants on those days are found to require water, and have it without stint; but of course there are always exceptions. Some will not want it so often, while others require to be examined more frequently. Lælia crispa (sometimes known as Cattleya crispa) is very similar in growth to Lælia purpurata, and should be grown with that species, having the same treatment in every respect with the exception of the time in repotting, as it is much later in making up its growths and in flowering. The new pseudobulbs are now only half-way advanced to their completion, consequently it must be about August before they can flower, after which is the best time for repotting.

Odontoglossum citrosmum will now be starting to grow. The plants have been kept very dry since November, in fact the pseudobulbs have shrivelled a little, which is not really desirable, though it cannot be helped sometimes. Continue to keep them on the dry side until the flower spikes appear from the centre of the new growths, which will be shortly, and

afterwards more water should be given. Cattleya Warneri is now well advanced, and may be watered as soon as it looks dry, but with Warscewiczii, which is just starting to grow, it is different, as it is a shy flower, and but little water must be given until the new growths are two or three inches high. C. Gaskelliana is also breaking well and should either be repotted this month or left over until immediately after flowering. If in bad condition at the root they would be best done now.

ORCHID PORTRAITS.

Aeranthus grandiflorus, Lindl. *Gard. Mag.*, Nov. 30, p. 704, with fig.; *Orch. Alb.*, t. 514.

Bifrenaria tyrianthina, Rchb. f.—*Bot. Mag.*, t. 7461.

Cattleya × Mantinii. *Gard. Mag.*, Feb. 8, p. 83, with fig.

Cattleya Trianæ alba. *Journ. of Hort.*, Feb. 6, p. 113, fig. 17.

Cypripedium × Gertrude Hollington. *Journ. of Hort.*, Jan. 2, p. 3, fig. 1.

Cypripedium × James Buckingham. *Journ. of Hort.*, Feb. 20, p. 150, fig. 23.

Dendrobium lutteolum. *Journ. of Hort.*, Feb. 13, pp. 142, 143, fig. 21.

Lycaste Smeeana, Rchb. f.—*Orch. Alb.*, t. 516.

Odontoglossum crispum Ashworthianum. *Gard. Chron.*, Feb. 15, pp. 196, 197, fig. 26.

Odontoglossum maxillare. *Gard. Mag.*, Feb. 22, pp. 116, 117, with fig.

Odontoglossum Schlieperianum flavidum. *Orch. Ill.*, t. 515.

Renanthera Storiei, Rchb. f.—*Orch. Alb.*, t. 513.

Vanda Sanderiana, Rchb. f.—*Garden*, Feb. 1, p. 88, with fig.

Zygopetalum Gautieri.—*Garden*, Feb. 15, p. 118, t. 1053.

DENDROBIUM NOBILE AND ITS VARIETIES.

A series of beautiful forms of Dendrobium nobile has been sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury. Among those described at pages 147 to 150 of our last volume may be mentioned the varieties pulcherrimum and Sanderianum, together with four other large and richly coloured forms, two of which probably come under the head of D. n. giganteum.

D. n. nobilius, from the collection of W. P. Burkinshaw, Esq., of Hessle, is a magnificent flower 3¼ inches across the petals, which latter are fully an inch broad. D. n. elegans, from the same collection, has the petals as broad

but a little shorter. Three or four other large light-coloured forms are also enclosed, showing that the plants have been very well grown.

A curious form has flowered in the collection of R. Ashworth, Esq., Newchurch, near Manchester, in which half the flowers have the inner angles of the lateral sepals stained with maroon. A smaller number on the same plant have only one sepal so marked, and the remaining fourth are without these markings at all. It presented the same peculiarity last year. This lip-like colouration of the lateral sepals is characteristic of the variety burfordiense, though we believe the peculiarity is constant in that form.

The forms of this popular and useful species are becoming rather numerous. Some others have been received, but call for no special remark, being only good average forms.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

The display of Orchids at the Drill Hall, James Street, Westminster, on February 11th last was a very good one, and above the average for this particular season, doubtless owing to the mild weather which prevailed. A number of Awards were made, and, singularly enough, two exhibitors each received an Award of Merit for the old Cypripedium villosum, which has previously been overlooked.

The President, Sir Trevor Lawrence, Burford, Dorking (gr. Mr. White), staged a choice group, to which a Silver Banksian Medal was given. It included a fine basket of the beautiful Dendrobium × burfordiense, covered with its pretty rose-tinted flowers, and a splendid specimen of D. × Dominianum, Masdevallia × Fraseri, M. melanopus, Cypripedium villosum aureum, and four others to which Special Awards were given. A fine specimen of Pleurothallis Roezlii, bearing numerous drooping racemes of large vinous-purple flowers, received a Cultural Commendation, and three others each secured an Award of Merit. These were:—Masdevallia × Henriettæ (M. ignea ♀ × M. caudata Shuttleworthii ♂), with salmon-pink flowers, veined with a darker tint; Dendrobium × pallens, a very delicately-tinted flower, of which D. Findlayanum is said to be one parent, and Cypripedium villosum, of which some fine examples were shown.

The Right Hon. J. Chamberlain, M.P., Highbury, Moor Green, Birmingham (gr. Mr. Burberry), sent two very interesting hybrids raised in the collection. These were Masdevallia × Shuttryana Chamberlanii (M. coccinea Harryana ♀ × M. caudata Shuttleworthii ♂), to which an Award of Merit was given, and Dendrobium × Andromeda (D. × Ainsworthii Leechianum ♀ × D. × Cassiope ♂), a very pretty form with cream-white flowers tinged with pink, and the disc of the lip purple.

The Hon. Walter Rothschild, Tring Park (gr. Mr. Hill) received an Award of Merit for a fine plant of Houlletia tigrina bearing two racemes, one with two, the other with four flowers.

Baron Sir H. Schroder, The Dell, Egham (gr. Mr. Ballantine) showed a fine Odontoglossum × Andersonianum, and the magnificent O. crispum nobilius, with seventeen beautifully blotched flowers on the spike. It is one of the best examples of this species ever seen, and deserved the award made to it of a Silver Flora Medal.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), received a Silver Banksian Medal for a good group, including Dendrobium × Dominyanum, D. nobile Ballianum, Sacco-labium bellinum, a richly coloured Cattleya Trianæ, Cypripedium × Pegasus (C. × Leeanum ♀ × C. × Morganiæ ♂), a very pretty hybrid, C. × Olenus, C. × Leeanum, C. × Calypso superbum, and C. villosum, the latter receiving an Award of Merit.

E. Ashworth, Esq., Hartield Hall, Wilmslow, staged a very fine group of cut Orchids, to which a Silver Banksian Medal was given. He also sent plants of Denbrobium × Wardiano-japonicum, and a fine Cypripedium called C. × Leysenianum (C. barbatum Warnerianum ♀ × C. bellatulum ♂), one of the numerous forms of C. × Richmanni, to which a special Vote of Thanks was given.

J. T. Gabriel, Esq., Elmstead, Leigham Park Road, Streatham (gr. Mr. Guyett), staged a group of finely-flowered specimens of Coelogyne cristata, to which a Silver Banksian Medal was given.

Frau Ida Brandt, Villa Brandt, Riesbach, Zurich, received an Award of Merit for a very fine Odontoglossum Rossii rubescens.

A. J. Hollington, Esq., Forty Hill, Enfield (gr. Mr. Ayling), sent three good Cypripediums, called C. × Mrs. Fred Hardy (C. superbiens ♀ × C. bellatulum ♂), C. × Annie Ayling (C. Curtisii ♀ × C. concolor ♂) with rose-coloured petals densely dotted with dark purple, and C. × James Buckingham (C. × enfieldense ♀ × C. bellatulum ♂), a fine rose-purple flower spotted with chocolate, to which latter an Award of Merit was given.

E. H. Woodall, Esq., St. Nicholas House, Scarborough (gr. Mr. Hughes), sent a good plant of the pretty orange-red Odontoglossum retusum, to which a Cultural Commendation was given.

W. C. Walker, Esq., Percy Lodge, Winchmore Hill (gr. Mr. Cragg), sent Dendrobium speciosum, which received a Botanical Certificate.

F. W. Moore, Esq., Royal Botanical Gardens, Glasnevin, sent Selenipedium Klotzschianum and Maxillaria porphyrostele, a Botanical Certificate being given to the latter.

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr. Mr. Johnson),

sent a form of Cypripedium exul, C. × amabile, C. × Bragaianum, and C. × Jamesonianum (C. Arthurianum ♀ × C. × Leeanum superbum ♂).

Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea, staged a very fine group, to which a Silver Flora Medal was given. It included Epidendrum × Wallisio-ciliare, some splendid forms of Cattleya Trianæ, Saccolabium violaceum Harrisonianum, Phaius Blumei, Dendrobium × splendidissimum grandiflorum, D. × Wardiano-japonicum, D. × Cordeli and D. × C. flavescens, Selenipedium × Dromio (S. × cardinale ♀ × caudatum var. Uropedium ♂), Cypripedium × Germinyanum, C. × Io grande, and C. × Lathamianum ♂.

Messrs. F. Sander & Co., St. Albans, also received a Silver Flora Medal for a fine group, including Pescatorea Klabochorum and P. Lehmanni, Phaiocalanthe × Arnoldiæ, Phaius × Cooksoni, Dendrobium × Sibyl, D. × Vannerianum, D. × Curtisii (D. × Cassiope ♀ × D. aureum ♂), D. Johnsonæ, Lælia anceps Schrœderiana, L. a. Sanderiana and L. a. Hollidayana, Lycaste Skinneri alba, Cattleya Trianæ alba and others, a fine Cypripedium × Rothschildianum, Trichopilia sanguinolenta, Oncidium cheirophorum, &c.

Messrs. Hugh Low & Co., Clapton Nursery, staged a very pretty group including a number of good Phalænopsis Schilleriana and P. Stuartiana, Cynorchis Lowii, Cymbidium Lowianum, numerous good Cypripediums, and Dendrobium sarmentosum (Rolfe), a pretty little species to which a Botanical Certificate was given under the name of D. fragrans.

Messrs. B. S. Williams & Son, Upper Holloway, also received a Silver Banksian Medal for a good group, in which Cypripediums figured largely, together with Lælia glauca and the beautiful Pescatorea Lehmanni.

Messrs. Heath & Son, Cheltenham, sent Cattleya Trianæ Ernesti, and another brilliant form, Dendrobium Findlayanum giganteum, a very fine form of Phalænopsis Schilleriana, and P. × Veitchiana, a most interesting hybrid between the last-named and P. rosea.

CORRESPONDENCE, &c.

D. B. R., Lascard. The Odontoglossum is curiously abnormal, and remains a little doubtful. The Dendrobium may be considered a pale form of D. × Rubens.

J. B., Hessle. Lælia anceps Barkeriana.

H. G., Haslingden. Odontoglossum Rossii, not recognised as a named variety.

A. R. S., Troy. Cypripedium insigne with remarkably marked dorsal sepal, of which more hereafter.

H. H., Whitby. Cypripedium insigne with very large spots. C. venustum, good but fairly typical.

G. H., California. Will reply as early as possible.

F. M. B., R. Y., and others. Many thanks. Shall not be lost sight of.

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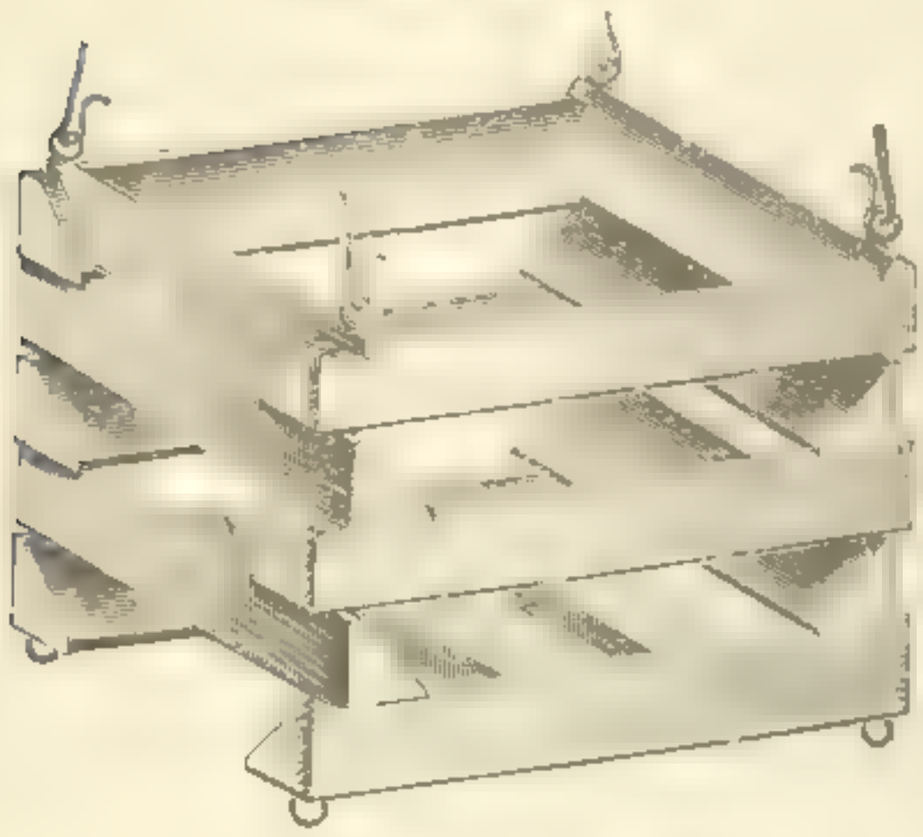

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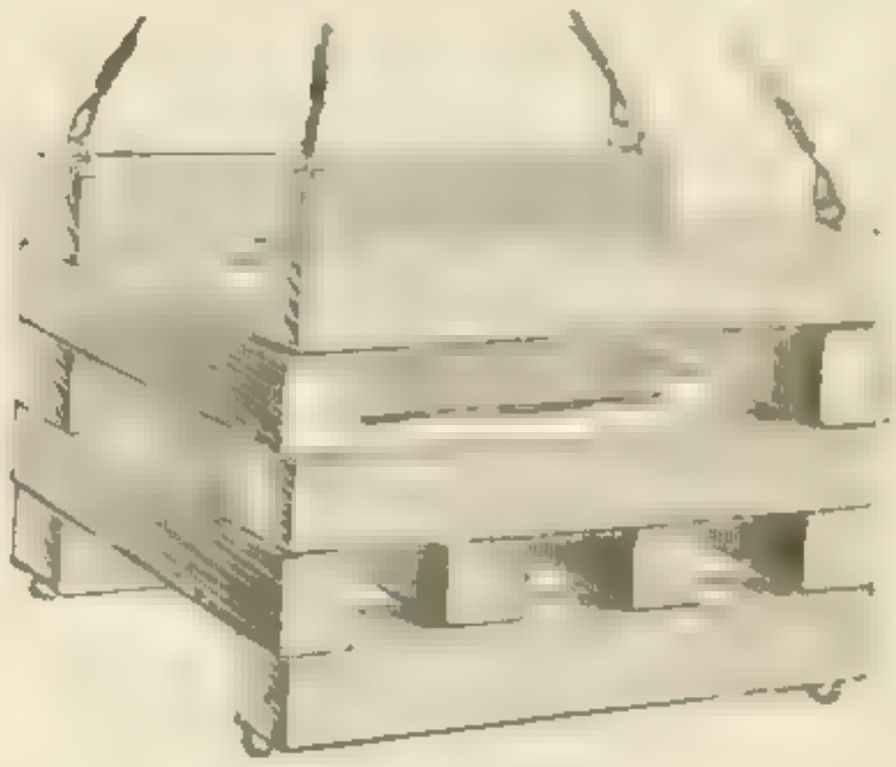

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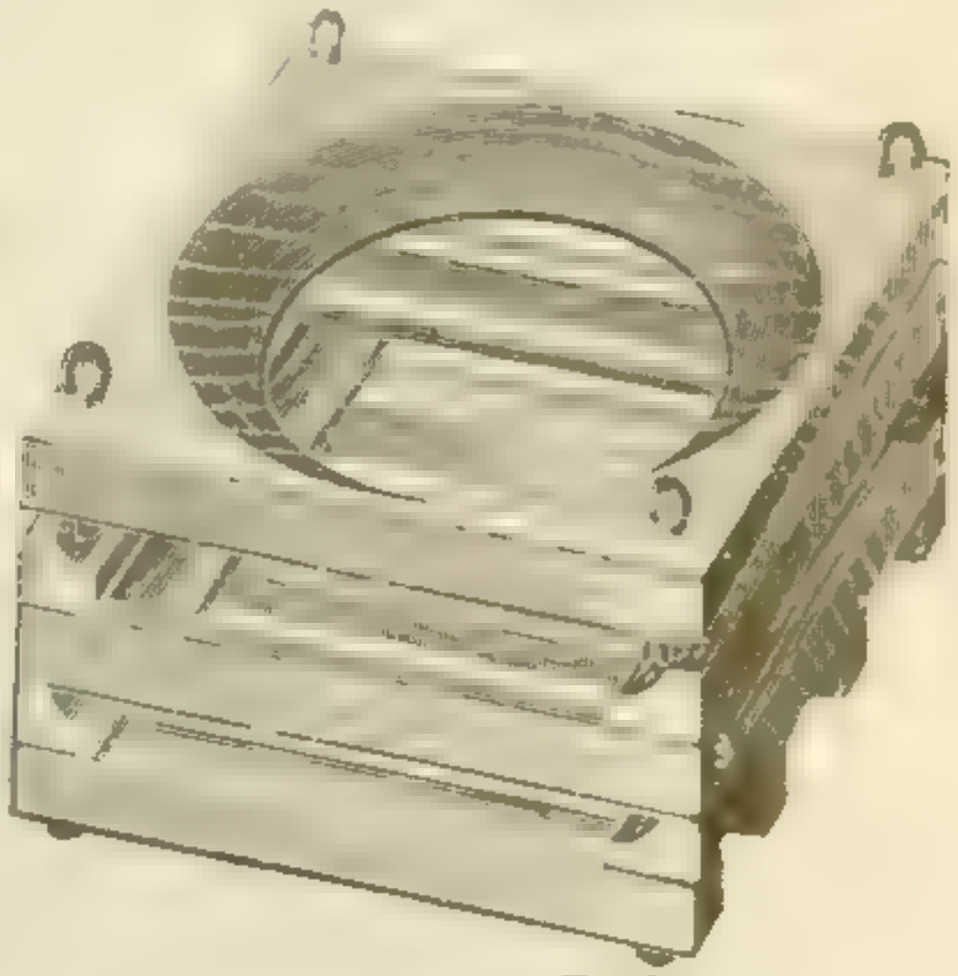

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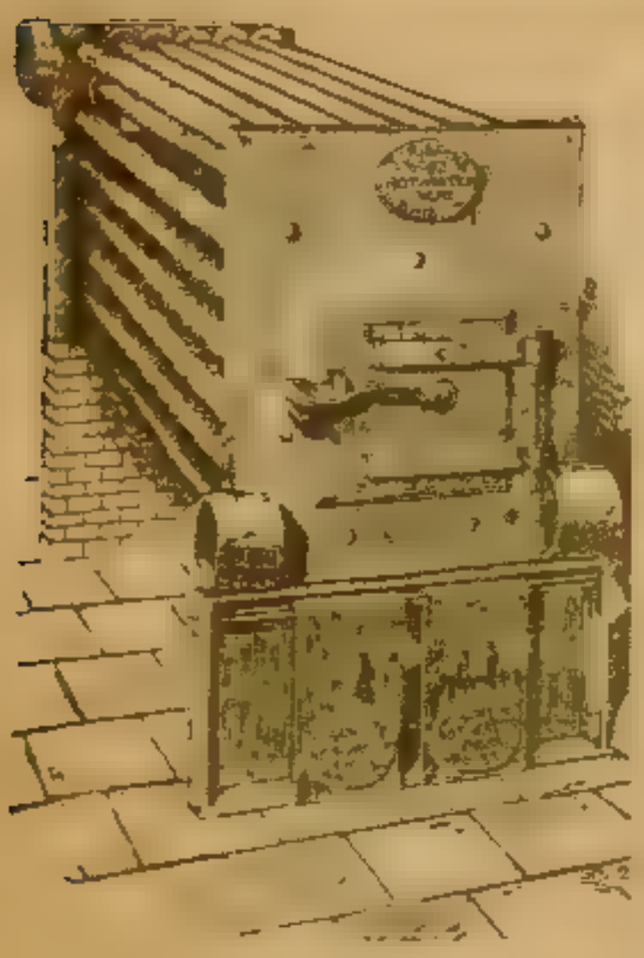

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NOTES.

Two meetings of the Royal Horticultural Society will be held during April, on the 7th and 21st respectively, when the Orchid Committee will meet at the usual hour of 12 o'clock, noon.

Attention has sometimes been called to Cattleyas which open white but gradually become tinted as the flower becomes older. An example of C. labiata appeared in the collection of R. B. Macbean, Esq., in November last, which, we are informed, opened as white as Cœlogyne cristata, but became darker every day until it finally reached a decided lavender tint. It is evidently not an albino, though the colouring matter did not develop before the flower opened.

A flower of the charming little Dendrobium × Roeblingianum, described at page 211 of our first volume, has been sent from the collection of the Right Hon. J. Chamberlain, M.P. It is a seedling from D. Ruckeri fertilised with the pollen of D. nobile, and well combines the characters of the two parents. Messrs. Pitcher and Manda were the raisers.

Two flowers of a curious Odontoglossum with both lip and column abnormal, are sent from the collection of D. B. Rappart, Esq., of Liscard, Cheshire, which, owing to the peculiarity, cannot be certainly determined, though they may belong to a hybrid between O. Hallii and O. cirrhosum, as was as at first supposed. The crest of the lip is only very partially developed, but it may behave differently at another time of flowering.

A very fine flower of Odontoglossum hystrix, or the Bogota form of O. luteopurpureum with nearly white ground, originally described under this

name, comes from the collection of R. Brooman White, Esq., of Arddarroch, measuring $3\frac{1}{2}$ inches across the toothed petals. The sepals are wholly brown except at extreme apex and base, and the petals very heavily marked.

Odontoglossum × Andersonianum, from the same collection, is also very fine, the segments being seven lines broad, and well blotched on a pure white ground. O. × Wilckeanum splendens has the segments long and narrow, and the petals much undulate. The ground colour is white, and the large blotches deep red-brown.

A large plant of the handsome Arachnanthe Catheartii is now flowering in the collection of H. J. Ross, Esq., of Florence, bearing as many as ten racemes, with numerous flowers open at the same time. It is rare in cultivation, and does not always succeed as could be wished, but when grown properly is a very striking object. It has a rather rambling habit.

The remarkable Poggio Gherardo variety of Cypripedium × Dauthieri in the same collection is also bearing eight flowers, and is really a beautiful object. The history of this interesting sport is given at page 20 of our second volume.

A fine flower of Cattleya Trianæ delicata has been sent from the collection of John T. Arkle, Esq., West Derby, Liverpool. It is from a plant imported a year ago, and the raceme bears three flowers. Another flower of the beautiful C. T. Arkleana, figured at page 81, is also enclosed, and shows precisely the same character as last year.

Most forms of the charming little Cypripedium niveum are more or less dotted with purple, but a flower sent from the collection of Colonel Marwood, of Whitby, by Mr. Horner, is an absolute albino, as there is not a speck of purple anywhere. It was imported about a year ago as C. concolor.

We have received a splendid inflorescence of twelve flowers of Cattleya aurantiaca from the collection of E. A. Bevis, Esq., of Oxford, which is one of six borne by the plant. The flowers are of the most brilliant orange-colour, and quite perfect. A complete account of this handsome species is given at pages 83 and 99 of our last volume. Those who would obtain the beautiful natural hybrid Cattleya × guatemalensis should cross this species with C. Skinneri.

Two very good forms of Cattleya Trianæ come from the same collection, one fairly typical, the other a large delicate blush form, with purplish rose pale margined lip, which may be referred to the variety Io.

A four-flowered raceme of a most beautiful form of Cattleya Schroderæ is sent from the collection of Hamar Bass, Esq., Byrkley, Burton-on-Trent, by Mr. Hamilton. The flowers are nearly pure white, with just the faintest trace of delicate blush, and the usual light orange disc. The petals are 2½ inches broad, and the lip beautifully undulate.

A richly-coloured flower of C. Lueddemanniana is also sent from the same collection, which has the peculiarity that the dorsal sepal is completely united to one of the petals, and yet retains its characteristic texture and venation. It is probably an accidental malformation.

Among the European terrestrial Orchids in the collection of H. J. Elwes, Esq., Colesbourne, Gloucestershire, are some good forms of Orchis militaris, O. longicruris, and Serapias Lingua, of which we have received examples. They are very pretty little plants and succeed well, the latter increasing freely.

Some fine flowers of Miltonia Roezlii and its variety alba are also enclosed, together with the charming little Pleione humilis tricolor, and Cymbidium madidum with 32 flowers.

A distinct and beautiful form of Cattleya Trianæ not mentioned in our list at pages 114 and 199 of our last volume is the variety lilacina, now flowering in the collection of Baron Sir H. Schroder, The Dell, Egham. The front of the lip is lilac-purple, the disc yellow, and the rest of the flower pure white.

The middle of March is late for Cypripedium insigne Sanderæ, yet we have received a beautiful flower from the collection of E. H. Woodall, Esq., of Scarborough. We suspect it has been grown very cool. The flower is of a brilliant clear yellow.

Flowers of the beautiful Cypripedium × Cyenides and C. × William Lloyd, noted at p. 304 of our last volume, are again sent from the collection of R. H. Measures, Esq., of Streatham, to show how different they are, although both are said to have been derived from C. × Swanianum and C. bellatulum. Mr. Measures remarks that the former shows so much of C. barbatum, both in the leaf and flower, that some doubt must be felt as to the records.

A magnificent flower of Lycaste Skinneri comes from the collection of E. A. Beveis, Esq., of Oxford, in which the sepals are 3½ inches long by over 1½ inches broad, and the petals and lip equally well developed, the former strongly suffused with rose-purple, and the front lobe of the latter much blotched with rich crimson.

DIES ORCHIDIANÆ.

A RATHER interesting question is raised by Mr. James Douglas in the *Gardeners' Chronicle* for February 29th, respecting figures of Orchids. Speaking of Stanhopeas, at page 264, he remarks: "The figure of S. Haseloviana in the *Bot. Mag.* for January, has again brought to my mind an idea which has been there before: whether or not in the production of these coloured plates it would not be better to have the flowers photographed in the first place: and if not the flowers, because they are to be coloured, certainly the parts of the flower that have not to be coloured, and the drawing of the plant itself, which is sometimes given. In the plate alluded to, are the tops of the column and the pollinia in two positions? I make these comments because I had some excellent photographs from the Rev. F. D. Horner some three or four years ago of Stanhopea tigrina flowers, and they certainly were very different from the coloured plates of long ago, and the modern ones do not seem to be any better."

I have nothing to say as to the particular plate in question, though with respect to photographic representations generally I think there can be no doubt as to their superior accuracy, as compared with drawings. In practice, at all events, very few artists succeed in giving the perspective of the flower and the relative amount of light and shade with anything like that degree of accuracy seen in an average photograph, and even the outlines and proportions of the different parts of the flower in many recently published drawings leave much to be desired. Some time ago a friend brought me three figures from the horticultural journals of a new hybrid Cypripedium, all drawn from the self-same flower (there being but one), and all were different, both from each other and from a photograph of the said flower; indeed, evidence derived from the text was required to show that all were intended to represent the same thing.

Of course my remarks are intended to apply to illustrations in black and white, because no process of photographing colours has yet been perfected, though some recent experiments have yielded promising results. How far photographing the plants first and colouring them afterwards would succeed is perhaps doubtful, though I am perfectly certain that no camera that was ever made would give representations at all like some figures that I could mention, a certain Eulophiella among the number. A process of reproducing colours by photography would revolutionise our horticultural works.

Even in the matter of reproduction in black and white many photographic illustrations are very imperfect, because of a difficulty inherent to the process—namely, that ordinary photography does not give different colours in their proportion as seen by the eye, some coming out too light, and others too dark. But much of this difficulty can be obviated by the use of isochromatic plates and coloured screens. Even without these useful accessories photographic reproductions are generally more recognisable and more life-like than drawings, and it is interesting to note how rapidly photography is coming to the front for all purposes where accuracy is of prime importance. And in this connection I cannot avoid alluding to the valuable series of photographic illustrations which have appeared in the pages of the *Orchid Review*, which should convince anyone of the value of the process generally.

Two or three times I have had occasion to mention the series of named hybrids derived from Cypripedium barbatum and C. bellatulum, the last time as recently as February (pp. 36, 37), and I now see another addition to the list. In a report of an exhibit by Sir Trevor Lawrence at the Royal Horticultural Society's meeting on 10th March last, I read:—"Among the Cypripediums, C. × barbato-bellatulum (barbatum Warneri × bellatulum) was certainly the brightest of the 'Charles Richman' class." (*Gard. Chron.* March 14, p. 337.) This name is given in accordance with the botanical rule of naming hybrids—at all events with the exception that the name of the pollen parent is put last in the compound name, instead of first—and I now hope that this much-named hybrid will be allowed to rest. After being baptised a few times in Latin, a few more in the vernacular, and now according to the canons of botanical nomenclature, one feels inclined to ask—**what is its correct name?**

ARGUS.

CATTLEYA TRIANÆ SUPERBA.

A VERY fine form of Cattleya Trianæ has been sent from the collection of D. B. Rappart, Esq., Liscard, Cheshire, in which the petals are four inches long by over 2¾ inches broad, and, with the sepals, of a deep rose-pink. The front lobe of the lip is rich crimson-purple, and the throat deep yellow. It is brighter in colour than the type, as well as much larger, and may be called C. T. superba. Some flowers on the same plant which opened a fortnight earlier are said to have been even larger than the one sent. A small light-coloured form is also sent, from a plant which arrived as a seedling on a piece of C. T. alba. It has now flowered for the first time on a bulb five inches long. It has not yet properly developed.

NOVELTIES.

RESTREPIA SANGUINEA, Rolfe.—A pretty little species allied to R. pandurata, Rchb. f., but with wholly crimson flowers, except a small yellow area at the base of the column and lateral sepals. It was introduced from Columbia by Messrs. Charlesworth & Co., Heaton, Bradford, with whom it flowered in November last.—*Kew Bulletin*, 1896, p. 44.

DENDROBIUM QUADRILOBUM, Rolfe.—A species of the section Cadetia, sent to Kew by F. A. Newdigate, Esq., M.P., of Nuneaton, and flowered in the collection in October last. The leaves are small for the section, and the flowers large, uniformly pale whitish-green, and with a four-lobed lip, in allusion to which the name is given. Though received with other Dendrobiums from Australia, it is suggested as probably a native of New Guinea, or one of the adjacent islands.—*Kew Bulletin*, 1896, p. 44.

BULBOPHYLLUM LONGISCAPUM, Rolfe.—Sent to Kew by Mr. Yeoward, Curator, Botanical Station, Fiji, in 1891, and flowered in November last. It is remarkable in having a long scape and short raceme, and a long attenuated lip. The flowers are light green, except the foot of the column and the lip, which are red-purple, the latter passing to yellow at the apex.—*Kew Bulletin*, 1896, p. 45.

BULBOPHYLLUM MACROCHILUM, Rolfe.—A Bornean species allied to the preceding, collected by Dr. Haviland, but not yet in cultivation.—p. 45.

BULBOPHYLLUM ATTENUATUM, ROLFE.—Another curious species allied to the two preceding, introduced from Borneo by Messrs. Linden, Brussels, who flowered it in October, 1892. The sepals are veined with maroon-purple on a lighter ground, and the rest of the flower suffused with the same colour.—*Kew Bulletin*, 1896, p. 45.

LANIUM SUBULATUM, Rolfe. A curious little plant introduced by Messrs. F. Sander & Co., from the province of Minas Geraes, Brazil. It differs from the three other species of the genus by its subulate leaves and smaller flowers, the latter being pale green, with a little suffusion of pink in the sepals.—*Kew Bulletin*, 1896, p. 46.

EPIDENDRUM ATRORUBENS, Rolfe. A Mexican species with dark red-purple flowers, belonging to the section Encyclium, and allied to E. selligerum, Batem, and E. plicatum, Lindl. It flowered with Messrs. Linden, Brussels, in October 1892.—*Kew Bulletin*, 1896, p. 44.

SPIRANTHES METALLICA, Rolfe.—A species allied to S. picta, Lindl., but with the perianth segments only about half the size, and the leaves of a peculiar olive-brown or metallic shade, frequently bearing a number of smaller spots. It first flowered with Messrs. Veitch in 1882. The flowers are light green, with a whitish lip.—*Kew Bulletin*, 1896, p. 46.

MACODES SANDERIANA, Rolfe.—This is the plant described by Dr.

Kranzlin, under the name of Anœctochilus Sanderianus, but belongs to another genus. It is allied to M. argyroneura, Rolfe (Hæmaria argyroneura, Miq.), but is very different in the foliage. *Kew Bulletin*, 1896, p. 47.

HOLOTHRIX JOHNSTONI, Rolfe.—An East Tropical African species, collected at the Upper Mlanje Plateau, near Zomba, by SIR H. H. Johnston. It is allied to the South African H. condensata, Sond., but has larger flowers and a five-lobed lip. *Kew Bulletin*, 1896, p. 47.

BULBOPHYLLUM ORTHOGLOSSUM, Kranzl. A species of the Sarcopodium group, allied to B. mandibulare, Rchb. f., which flowered in the collection of M. Wendland, at Herrenhausen, Hanover. The flowers are large and yellowish-green, with numerous brown stripes on the sepals and petals. It is a native of the island of Sarangui, and was discovered by M. Micholitz, one of Messrs. Sander's collectors. *Gard. Chron.*, March 14, p. 326.

GALEANDRA DEVONIANA.

A PLANT of this species, in the collection of H. J. Elwes, Esq., Colesbourne, Gloucestershire, has produced a splendid raceme of ten flowers, which indicates excellent culture on the part of Mr. Lane, who has charge of it. Many people find it difficult to grow well—probably through not giving it proper treatment—but it is a striking plant when it does succeed, and Schomburgk speaks of the stems as sometimes from five to six feet high. Some notes on its culture were given at pages 281 and 284 of our last volume, and Mr. Lane has obligingly sent the following note on his treatment:—The plant was purchased in flower of Mr. James Cypher, of Cheltenham, in the spring of 1894. It was rested during the summer in the Cattleya house, and when starting into growth in the autumn was potted in a mixture of peat, sphagnum, and charcoal, and placed in the East Indian house in a rather shady position, where it grew strongly and gave us a raceme of eleven flowers in the spring of 1895. The same treatment was given the following season, but the plant is not quite so strong this spring, for, as you will see, it has ten flowers only. I think my treatment differs from that generally recommended in this, that I do *not* give a large amount of water during the growing season, as I find the plant makes a small quantity of roots in proportion to the top growth, also as the plant makes its growth during the dullest months of the year it is never or rarely syringed overhead, as I think is usually recommended to be done rather heavily. I give enough water during the resting season to keep the growths plump and the leaves green. As the leaves are developed on the young growths they gradually fall away from the preceding ones. I find the plant may be propagated in the same way as Thunias, by cutting old stems up into pieces and laying them on growing sphagnum.

DENDROBIUMS IN SEASON.

DENDROBIUMS are emphatically the plants of this particular season, especially the varieties of D. nobile and the numerous beautiful hybrids partly derived from it, of which we have received numerous examples from different correspondents.

A series of flowers sent by Mr. James Cypher, of Cheltenham, are particularly well grown, and include several fine varieties of D. nobile, as nobilius, splendens, pulcherrimum, Cypheri, pendulum, and Cooksoni, in the best condition; a magnificent D. Wardianum with petals 1¼ inches broad, two forms of D. fimbriatum oculatum, one darker than the other; together with D. × Ainsworthii, D. × A. roseum, some giant forms of D. × Leechianum, and D. × Apollo. The course of treatment followed by Mr. Cypher, by which such splendid results are attained, was detailed at pages 53 to 55 of our last volume.

Messrs. Hurst & Son, Burbage Nurseries, Hinckley, send a very fine flower of D. n. nobilius, from the original form, having short and broad very dark segments, as figured at t. 214 of the *Orchid Album*: also D. n. Cooksoni, D. × Leechianum, and others, together with a good flower of D. infundibulum.

A very fine Dendrobium Wardianum comes from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, in which the petals are over 1¼ inches broad, also D. nobile giganteum, and two very good forms of D. Phalænopsis, a plant which is always beautiful, though more useful later in the season, when it has fewer rivals.

The delicately-coloured D. nobile Ballianum comes from the collection of R. Ashworth, Esq., of Newchurch, near Manchester, together with several others.

A large amount of variation is seen among recent importations of D. nobile, and many of the forms do not correspond with those already described, but in order to avoid a multitude of varieties we think that only the more distinct ones should receive distinguishing varietal names.

CYPRIPEDIUM × LACHESIS.

A LEAF, flower, and photograph of the above hybrid have been received from the collection of Reginald Young, Esq., of Sefton Park, Liverpool, together with the following note: —"A flower of Cypripedium × Crossianum in my establishment was crossed by my gardener, Mr. Thos. Poyntz, with the pollen of C. × marmorophyllum, in January, 1891. In January, 1892, the pod having ripened, the seed was sown on its own pot. On the 8th

June, 1893, my gardener discovered *one* seedling only, hidden among the sphagnum, which had become luxuriant in growth, and to all appearance the seedling at that time was already several months old. The first flower was partially open 1st March, 1896." The flower sent shows distinct evidence of its parentage; in general shape, perhaps, being most like C. × marmorophyllum, while the characters of C. Hookeræ and C. venustum are easily traced. It is a bold and well-formed flower, though the colours are less decided than could be wished. The dorsal sepal is bright green with about seventeen olive-green lines, and a broad white margin. The petals are light green at the base and light purple at the apex, the intervening part being nerved with purple-brown on a lighter ground, and with a very few purple-brown spots. The lip is veined all over with purple-brown on a rather lighter ground: and the staminode large, round except at the apex, and suffused with light purple on a pale ground. All the segments are short and broad, and of good substance. The leaf is green, and rather obscurely tessellated. We should suggest crossing it again with some very dark flower, as C. × Creon or C. × Harrisianum superbum.

NOMENCLATURE OF HYBRID CYPRIPEDIUMS.

THE parentage of Cypripedium × Lachesis (C. × Crossianum ♀ and C. × marmorophyllum ♂), suggests an interesting question as to the naming of certain possible hybrids, as detailed below. Tracing it back to the species from which it was derived, the parentage may be thus tabulated:—

C. × Lachesis { × Crossianum ♀ { insigne ♀ / venustum ♂ ; × marmorophyllum ♂ { Hookeræ ♀ / barbatum ♂

From this it will be seen that the component parts of this hybrid are ¼ insigne, ¼ venustum, ¼ Hookeræ, and ¼ barbatum. Now other hybrids might easily be raised from the same four species in identical proportions, as shown in the following table:—

(*a*) C. × ——— ? { × Ashburtoniæ ♀ { barbatum ♀ / insigne ♂ ; × Atys ♂ { Hookeræ ♀ / venustum ♂

(*b*) C. × ——— ? { × calophyllum ♀ { barbatum ♀ / venustum ♂ ; × Echo ♂ { Hookeræ ♀ / insigne ♂

The reverse cross in either of the above instances would, of course, produce seedlings of the same composition, or C. × Cassiope might be used in place of C. × Atys, C. × amethystinum instead of C. × marmorphyllum

or C. × Meirax or other barbatum × venustum hybrid in place of C. × calophyllum.

Query: Should the products of these various crosses be considered synonymous with C. × Lachesis, varieties of it, or be entitled to entirely new names? REGINALD YOUNG.

[A very curious question is raised in the above note, which it is not easy to answer absolutely. It has previously been pointed out that certain definite results might be obtained in different ways, as in the cases above cited, and bearing in mind the well-known variability of hybrids, especially of secondary hybrids, it seems quite probable that certain seedlings of the hypothetical crosses *a* or *b* might be more like C. × Lachesis than like other seedlings out of the self-same capsule; and it is even possible that they might be so identical as to be indistinguishable from it, and in the latter case, at all events, a separate name would be meaningless, even in a florist's sense. We are inclined to think many secondary hybrids are not worth naming, and if only those which showed some distinct improvement on their predecessors were named and recorded these plants might be treated in the same way as florist's flowers, which they undoubtedly are. In the case of crosses between distinct species primary hybrids we think every distinct cross should be recorded, whether an improvement or not, and all subsequent seedlings should come under the original name, a distinct varietal name being added where such a course seems desirable. If this course were consistently followed we think the records might be kept free from much confusion.—ED.]

ODONTOGLOSSUM × ANDERSONIANUM BRADSHAWII.

THIS striking form was exhibited at the Royal Horticultural Society's meeting on March 10th last, by Messrs. Hugh Low & Co., and has since passed into the collection of J. Bradshaw, Esq., The Grange, Southgate. It is most allied to the one known as O. × hebraicum lineoligerum, but differs in having the ground colour entirely bright yellow, and all the segments narrower and much acuminate, the lip being 1½ inches long, and the sepals two inches. The spots on the lower halves of the sepals and petals are numerous, red-brown, and somewhat elongated or line-like, as in the form above named. It flowered out of a batch of Odontoglossum crispum, and is one of the numerous hybrids between that species and O. gloriosum, though the characters of the former are less apparent than usual. In shape it bears a remarkable resemblance to O. cirrhosum, which, however, is a native of Ecuador, far away from where O. crispum grows. It is a very pretty variety.

R. A. R.

THE HYBRIDIST.

DENDROBIUM × KINGIANO-SPECIOSUM.

An interesting hybrid was raised some years ago by the late Mr. Spyers, in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, from D. speciosum ♀ and D. Kingianum ♂, and a good plant was exhibited at the Royal Horticultural Society's meeting on March 10th last. Looking at Mr. Hanson's book we find the record at p. 198 "Dendrobium Kingianum-speciosum (Kingianum ♀) White, for Lawrence, Dorking, R.H.S., March 22nd, '93." How this record was obtained we cannot say—and we fail to trace it—but in any case it is incorrect. No meeting was held on the date given, and the record does not tally with one from Mr. White himself, which accompanied a raceme of flowers, and which was taken from a note book kept by Mr. Spyers. The plant distinctly combines the characters of the two parents, those of D. speciosum being particularly well marked in the vegetative organs, though the pseudobulbs are considerably smaller than in that species, as would be expected. The racemes are about six to nine inches long, and bear from nine to twelve flowers, which are white, three-quarters of an inch long, and borne on longish pedicels. The lip is three-lobed, and marked all over with light purple spots and streaks, arranged in radiating lines, the front lobe being very broadly rounded. It is an interesting little plant, and is apparently very floriferous.

ZYGOPETALUM × PERRENONDI.

This handsome hybrid Zygopetalum was exhibited at the Royal Horticultural Society's meeting on March 10th last, by M. A. A. Peeters, of Brussels. It was obtained from *Z.* intermedium ♀ and *Z.* Gautieri ♂, and well combines the characters of the two parents. The sepals and petals are $1\frac{3}{4}$ inches long, and purple-brown in colour, except at the base, which is light green. The lip is broadly obovate and retuse, slightly longer than the sepals, $1\frac{1}{2}$ inches broad, and wholly suffused with purple, with darker violet-purple radiating nerves, and quite smooth. The crest is whitish with numerous purple ridges, and the column wholly deep purple. The flowers are fragrant. It is a richly-coloured and handsome hybrid.

DENDROBIUM × WIGANIÆ.

A very charming hybrid Dendrobium has been raised in the collection of Sir Frederick Wigan, Clare Lawn, East Sheen, by Mr. Young, from D. nobile ♀ and D. signatum ♂, of which we have received the two-flowered raceme. The flowers have the general shape of the former, and measure 3¼ inches across their broadest diameter, but the segments are a little

narrower, and nearly pure white, with just a trace of very pale sulphur, except at the tips of the petals, where there is a faint flush of pink. The lip is more open than in D. nobile, like the sepals and petals in colour, except that the area round the disc is pale primrose. The blotch is rather smaller, and not quite so dark as in D. nobile. All these modifications show the influence of D. signatum, and as both parents are very floriferous, it is certainly a very promising thing. The cross was made in March, 1891, the seed sown in April, 1892, and the flowers now sent are the first ones produced. This charming little plant is dedicated to Lady Wigan.

Dendrobium × Harold.

This is a very pretty hybrid raised in the collection of N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne, by Mr. Murray, from Dendrobium Findlayanum ♀ and D. Linawianum ♂. The pedicels are nearly three inches long, and rosy in the upper part, and the sepals and petals rosy except near the base, which is paler, and the petals at this part nearly white. The lip has a pink disc and rose-coloured apex, the remainder being nearly white. It distinctly combines the characters of the two parents, though those of D. Linawianum are the best marked throughout. The long pedicels should make it very handy for cutting.

Dendrobium × Kenneth.

This is a very pretty hybrid Dendrobium, raised in the collection of N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne, by Mr. Murray, from D. Bensonæ ♀ and D. Maccarthiæ ♂. The sepals and petals are pure white, nearly two inches long, the former five and the latter seven lines broad, and the lip $1\frac{3}{4}$ inches long by seven lines broad, very acute, and white, with a large maroon blotch. The cross was made in May, 1889, and the seed sown in July of the following year. Although the flowers sent are a good deal modified in shape, as compared with D. Bensonæ, the influence of the pollen parent is less apparent than in most cases, but may be traced in the shape of the sepals and petals. Their colour might at first appear curious were it not known that the union of purple and yellow often gives white, as in so many of the forms of D. × Ainsworthii, where the yellow of D. aureum is invariably lost. The present hybrid is a very charming thing, and received an Award of Merit from the R. H. S. on March 10th last.

Epidendrum × elegantulum and var. aureum.

Another very handsome hybrid has been raised in the establishment of Messrs. James Veitch & Sons, from Epidendrum Wallisii ♀ and E. × Endresio-Wallisii ♂, thus being a cross back to one of the parent species of the original hybrid. The result is very interesting. The flowers are

borne in terminal racemes, as in the pollen parent, but are much larger, and show more of the character of E. Wallisii. The sepals and petals are rich dark brown, and spotted with dark red-brown, each spot having a narrow pale ring round it. There is also a small whitish area at the extreme base of the segments. The lip is white, with a yellow area at the base and a number of rosy-purple spots. The habit is neat, as in the pollen parent. The racemes bear three to five flowers. A good plant was exhibited at the meeting of the R. H. S. on March 10th last, and received a First-class Certificate. It is now in the rich collection of Sir Trevor Lawrence, Bart.

Messrs. Veitch now send us flowers of a remarkable variety of the same, in which the sepals and petals are entirely light yellow, and the disc of the lip nearly half red-purple, partially arranged in radiating lines. In other respects it agrees with the type. It is very pretty and strikingly distinct and illustrates once more the variability of secondary hybrids.

CATTLEYA FLY.

I THINK your correspondent who wrote in the March number on the Cattleya fly, has not discovered the true fly or grub. I have, unfortunately, had a long and bitter experience of both, and have inspected many pupæ, from which my gardener has hatched out the perfect insect. The fly is small, shining-black, and very hard. I enclose a dead specimen with this letter. Furthermore, although we have Lælia purpurata, and other species growing in the infected Cattleya house, we have never known a single Lælia to be attacked. It would appear then that there are two distinct enemies to be dealt with, one ravaging the Cattleyas, and the other the Lælias.

We have cut away hundreds of infected growths, fumigated, and tried every known remedy: but really we seem almost as far off the end as ever, while the vitality of the plants has been seriously impaired. I shall buy no more Cattleyas until all traces of the enemy have vanished.

HERBERT MILLINGTON.

Bromsgrove, Worcestershire.

[The insect sent is a small black fly, exactly identical with some previously received from Mr. F. Roeslin, of Tynemouth, and we have no doubt it is the true Cattleya Fly. The fly alluded to by Mr. Hamilton at page 87, as found on Lælia purpurata, is evidently something else, but whether the cause of the mischief, or a parasite on the other, we cannot say. We hope that those who can throw any further light on this matter will not fail to do so.—ED.]

CYPRIPEDIUM × VICTORIA MARIÆ.

THIS curious species was introduced to cultivation soon after C. Chamberlainianum, to which it is nearly allied, and, indeed, for a time it was thought probably a variety of it, which, however, appears not to be the case. It is very similar in habit, but is a more robust grower, with a taller scape and differently coloured flowers. In both the leaves are oblong, and obscurely tessellated with two shades of green. The scapes are erect, and bear numerous broadly oblong, obtuse, conduplicate bracts, which, as well as the flowers, are developed in succession, the same scape remaining in flower for a long period, though generally only one or two flowers are open at the same time. In the present species the dorsal sepal is broadly elliptical-oblong, an inch long by nearly as broad, and light green with a cream-yellow margin. The petals are linear-oblong, much twisted, ciliate, about 1½ inches long, and light green suffused near the margin with very light purple. The lip is oblong, subcompressed at the sides, 1½ inches long, and very light green with a yellowish green margin, and the staminode ovate-oblong, subobtuse, hairy at the base, and the colour olive-green. As these characters have proved constant in a large number of plants it is evident that it must be considered a species distinct from C. Chamberlainianum, though nearly allied. It also is a native of Sumatra, though from another district, and was introduced by Messrs. F. Sander & Co., of St. Albans.

R. A. ROLFE.

AN AMATEUR'S NOTES.

THE additions to my Orchids in flower for the present month number over a score, besides which some of those previously mentioned are still keeping up a succession of bloom, especially Cœlogyne cristata, Cattleya Trianæ, Odontoglossum Rossii, Dendrobium nobile, which I consider as among the most valuable Orchids for keeping up a succession of flower at this season.

Dendrobiums just now occupy the first place, and among the additions I must enumerate the beautiful D. Devonianum, whose pendulous stems are literally wreathed with flowers, D. primulinum, moniliforme, cariniferum, Jamesianum, and the beautiful D. × Venus, which I think is yet unsurpassed among hybrid Dendrobiums. Cattleya Lawrenceana, too, has put in an appearance, and two or three forms of Masdevallia Chimæra, while some plants of Chysis bractescens are now at their best. This, I think, is a very attractive Orchid when well grown, and its flowers are almost like ivory.

Eulophiella Elisabethæ is now well in flower, and will evidently make

a good Orchid for the Warm house, where it succeeds well. It is very distinct from anything else, and the flowers, though not large, are very numerous, and last well. Cymbidium eburneum is as good as it always is, and Maxillaria Sanderiana, Cyrtopodium Andersoni, and Epidendrum cvectum are now flowering well. Angræcum citratum is very pretty and distinct, and the ranks of Odontoglossum are swelled by some good plants of O. cirrhosum, a very graceful species. Miltonia cuneata, too, is flowering well.

Additions among Cypripediums worth noting are C. hirsutissimum, exul, concolor and niveum, and these are being followed by several others and among them the hardy species C. pubescens, a flower or two of which are already out. This species is well worth growing in pots, which can be brought into the house when in flower, as it is so distinct from the tropical kinds, and, moreover, very handsome.

BOTANICAL ORCHIDS AT KEW.

One of the most interesting of the numerous botanical Orchids now flowering at Kew is Bulbophyllum barbigerum, which will doubtless form a centre of interest for some weeks to come. It is hardly necessary now to point out how quickly the long hairy lip responds to the slightest breeze, and pops up and down when the ventilators are open, as if endowed with mobility on its own account. The sensation a plant of it caused at one of the Temple shows will long be remembered. A plant of the curious Australian Dendrobium teretifolium is also flowering well, with its pendulous habit, whip-like leaves, and graceful racemes of white flowers. D. pugioniforme with braching habit and small yellow-green flowers, and D. secundum with one-sided racemes of pink flowers, may also be mentioned, while other allied plants are Cirrhopetalum cæspitosum and the curious little Trias picta.

There are several Odontoglossums which are only botanical Orchids, and of these O. ramulosum is bearing a raceme of its small yellow and brown flowers. The rare Mormodes Hookeri has a raceme of its deep purple flowers with hairy lip, and Maxillaria Houtteana two or three of its brilliant red flowers. Other interesting plants are Æonia polystachya, Lockhartia elegans, Xylobium corrugatum, Amblostoma tridactylitum, Cymbidium madidum, and Trichocentrum triquetrum, the latter a striking little plant with iris-like habit and large light yellow flowers spotted with orange.

Holothrix Lindleyana, sometimes known as Tryphia secunda, is a pretty little Cape species with erect racemes of small white flowers and deeply lobed lip. Pelexia maculata and P. olivacea are also both now in flower.

In the Pleurothallis group may be mentioned the curious Octomeria juncifolia, Pleurothallis gelida with numerous erect racemes of green flowers, the curious little Scaphosepalum swertiæfolium, also Masdevallia Benedicti and M. triangularis, both flowering very freely. Some of those mentioned last month (page 69) are also still in flower, and the above are the principal additions at the present time.

NOTE ON PERIODS OF RIPENING OF SEED.

THE following are results from a large number of observations, and may be interesting in connection with Mr. Mead's notes at page 41. *Unless seedlings have been obtained*, it is not right to assume that the seed was either good or ripe, and the results given here are all taken from cases in which the seed produced healthy plants :—

Calanthes—4 to 5 months (dozens of examples).

Cattleyas and Lælias never less that 11 months and up to 16 months (dozens of examples).

Cypripediums –from 7 to 13 months, but in most cases 10 to 11 (hundreds of examples).

Selenipediums in all cases a much shorter time than Cypripediums (scores of examples).

Dendrobes –from 9 to 17 months, in a usual way 14 to 15 many scores of examples).

Masdevallias—4 to 7 months (probably 1½ dozen of examples).

Odontoglossums –12 to 17 months (two cases only in which plants have been raised).

Phajus—6 to 9 months (several examples).

From careful observation I am strongly of opinion that the period necessary to produce fertile seed depends on the period usual with the seed-bearing parent, and that the pollen parent has little to do with the period necessary for the seed to ripen.

N. C. COOKSON.

Oakwood, Wylam-on-Tyne.

SEEDLINGS OF DENDROBIUM NOBILE.

AT page 168 of our last volume a note was given on a batch of seedlings in the collection of N. C. Cookson, Esq., of Wylam-on-Tyne, obtained by crossing Dendrobium nobile nobilius with the pollen of D. n. Cooksoni. From the same seed-pods some good forms of each parent were obtained, together with a series of forms grading down to ordinary D. nobile. One of these plants passed into the collection of F. H. Moore, Esq., of Liverpool, and the first flower produced was noted at the same time, though through some confusion with the others it was mentioned as an ordinary form of D nobile. This year the plant has produced eight flowers, one of which is again sent, and is almost identical with D. n. Cooksoni, the petals being almost metamorphosed into lips as in that. It is very remarkable that such a series of forms should have been obtained from the same seed-pod. Of course they are not hybrids, both parents being forms of D. nobile.

MASDEVALLIA ROSEA.

Our present illustration represents a beautiful specimen of Masdevallia rosea from the collection of Major General C. B. Lucie-Smith, The Acacias, Worthing. Some notes on the method of culture employed were given at page 154 of our second volume, and we may here further remark that during

Fig. 7.—MASDEVALLIA ROSEA.

the summer months, from the end of May to about the beginning of October, the cool Orchids are grown in sheltered places in the open air, those loving the most shade being placed in a small court-yard, with the

entrance covered by a canvas screen. They are placed on a stage erected over a border planted with hardy ferns, and are in the most perfect health. During the rest of the year they are cultivated in a small house, and the temperature kept rather low, sometimes falling to 40 in winter. These are the conditions under which the above specimen was grown, and the photograph indicates very clearly that the treatment is suitable. A plant of Masdevallia racemosa had also nine growths and 135 leaves. Other plants which succeed well under this treatment are Epidendrum vitellinum, Cochlioda Noetzliana, various Odontoglossums, Oncidiums, and Masdevallias. Cattleya citrina, Cœlogyne cristata, Cypripedium insigne, Vandas cœrulea and Kimballiana, Sophronitis grandiflora, Lælia majalis, and various others. The open-air shelters in which these plants are grown are fitted with skeleton frames on which light canvas shading is stretched, to break the rays of the sun, and the keen winds when the weather is rough. The results prove that if care is taken to keep together the species which require similar treatment, especially with regard to sun and shade, many of the coolest Orchids will grow and flower abundantly, year after year. Masdevallia rosea is one of the coolest-growing species in the genus, as it occurs at high elevations in Ecuador, where the climate is naturally cool. We have to thank the gallant Major for the photograph.

DIPHYLLOUS CATTLEYAS.

In a recent issue of the *Orchid Review* (vol. III., p. 376), I note that you think it remarkable that a Cattleya usually producing monophyllous pseudobulbs should at times come two-leaved. We have five cases of this description here in the Cattleya house, and I have photographed and sent you prints of two of these, the larger plant being C. Gaskelliana, and the other C. labiata (vera). Allow me to tender you my hearty appreciation of your work as demonstrated in the *Review*.

EDWARD O. ORPET.

South Lancaster, Mass., U.S.A.

[We are much obliged for the photographs, which confirm the observation that normally monophyllous Cattleyas may occasionally develop two leaves—probably a reversion to an ancestral condition. The discussion arose out of a remark at page 268 (respecting the species of the C. labiata group)—"Pseudobulbs always monophyllous," which would have been better expressed as—"Pseudobulbs normally monophyllous." When Mr. F. H. Moore first called attention to a diphyllous bulb of C. labiata we suspected that he had a plant of the hybrid C. × Victoria-Regina (*supra*, III., p. 17, fig. 1), but when he afterwards sent bulb, flower, and photograph, we immediately saw it to be typical C. labiata. It is quite possible that other species of the labiata group may occasionally develop diphyllous pseudobulbs.—ED.]

HYBRIDS OF IDENTICAL PARENTAGE.

I quite agree with "Argus" in his remark that it is time that the too common practice of giving new names to hybrids of identical parentage should be checked. The list he suggests would, I am sure, be too long for reproduction in your pages, and I do not think it would be of any practical good as a preventative. It seems to me that what has already been done cannot now be remedied, and it would be useless to point out the names of those most guilty in this respect. It also seems immaterial whether the fault has been intentional or simply committed in ignorance. The point now is, how best to remedy the evil for the future.

It surely would not be asking too much to request the Orchid Committee to decline to take notice of hybrids presented under new names in all cases where hybrids of the same parentage have been previously recorded. And the task of keeping a correct list for reference, showing at a glance whether a hybrid of such and such a parentage has already been named, should not be beyond their power. With such a record it would be easy to see what crosses have been made, and the names given to the production. Editors of gardening papers might also assist in this work.

I was pleased to note that you have recorded Sander's hybrid Cypripedium × Said Lloyd as C. × Lloydiæ. I think there are obvious objections to naming Orchids after living people, whether ladies or gentlemen, unless latinised. Leaving out other obvious considerations, there is the possibility of wishing to add a varietal name, and such additions as expansum, rubrum, nigrum, &c., &c., would not appear well after the name of a lady.

REGINALD YOUNG.

Sefton Park, Liverpool.

CYPRIPEDIUMS AT KEW.

THE following note on the collection of cultivated Cypripediums at Kew is extracted from a letter published in the *Gardeners' Chronicle* for Feb. 15th, last (page 204). There are sixty species of Cypripedium (including Selenipedium) in the collection, and, except only the rare C. Fairieanum, these are all that are known to be in cultivation. Of the hundreds of hybrids now known (in the list published in the *Gardeners' Chronicle* last year, February 16, p. 199, there are 522 enumerated), only thirty-two are represented at Kew. During the winter the more delicate species are kept in the small private houses, where the conditions are more suitable than in the large houses to which the public are admitted: but anyone specially interested is permitted to see the plants in the private houses. Of these fourteen species and seven hybrids are in flower.

CALENDAR OF OPERATIONS FOR APRIL.

By H. A. BURBERRY, Highbury, Moor Green, Birmingham.

THE temperatures given last month should still be maintained. The weather is sometimes very changeable and trying this month, which necessitates watchfulness and consideration in the matter of ventilation, so that the plants may not receive a sudden check caused by too much cold air blowing directly upon them; or, on the other hand, by insufficient air, shading, or moisture. Shading from bright sunshine must now generally be adopted for all Orchids except those in the Mexican house. Damping down should be done twice daily in all departments.

Thrips and Red Spider must be well kept under from the beginning, by employing remedies already advised. For the former fumigate with XL. All vapourising insecticide, and for the latter sponge frequently with Kilm-right, or soft soapy water.

The repotting of any Orchid should be pushed on with when it is seen to be in the proper condition, which, with but few exceptions, is when new growth is appearing and new roots are just pushing out. After repotting always expect the plants to shrivel to some extent, but prevent them from doing so as much as possible, by giving extra attention in such matters as protection from the sun, keeping the surroundings moist, and slightly spraying the surface of the compost and the foliage occasionally, until re-established.

This is the most suitable time of the whole year to buy newly-imported plants. If purchased now they start to grow almost immediately, and will often do as well the first season as others which are quite established. Cattleya labiata, I see, has again passed under the hammer at Protheroe & Morris's in large quantities. When received, they should not be taken at once into the Cattleya house, for fear of the Cattleya fly, which may be lurking concealed within the mass of old roots and bulbs. Let all dead roots and other rubbish be trimmed away, and the remaining foliage and pseudobulbs washed with a wet sponge: then, if possible, let them be placed in a house which is being fumigated with XL. All, which will probably kill any fly that may have escaped. Much of this pest has, I believe, lately been imported with this particular species. They may afterwards be taken to the Cattleya house and placed on the stage in an upright position, where water should be supplied to the roots not too frequently at first, in order that they may resuscitate gradually, but surely. Soon the pseudobulbs will become plump, and directly new growths and roots are appearing they should be potted up and treated as established plants. The same treatment should be practised with all other species of Cattleya when newly imported, and I would advise growers who intend increasing their collections

with newly-imported plants to do so during the spring or early summer.

An importation of another grand Orchid has, I observe, lately taken place, in the form of Vanda Hookeriana. This species, like Vanda teres, which it closely resembles in growth, delights in a moist and sunny part of the warmest house, near the glass, and copious syringing during the growing season. Even when inactive in winter it should not be allowed to become very dry. The base of the stems should be well secured in crocks, nearly up to the rim of the pot, leaving enough space only for a surfacing of sphagnum moss, which will soon grow. The long and slender stems will then require the aid of sticks to support them in an upright position. Be careful not to deluge too freely when newly imported, until new roots begin to push, after which the risk of syringing them too often is remote.

A fresh consignment of Vanda cœrulea has also arrived. I would advise growers against tampering with this or, indeed, any other species of Vanda by cutting away the leafless stems when life remains in the roots that are still attached. This is sometimes practised in order to bring the green leaves lower down to the pot, to make what is supposed to be a more handsome-looking plant. In such a procedure there is no common sense. The stems and live roots may, however, be sunk in the pot as low as is possible. I prefer for these Vandas perforated pots: the air then has access, in a more or less degree, to the roots, which is to some extent necessary, they having previously been exposed. I also prefer pots of a rather large size, so that the stem may go to the bottom without crushing. Fill up the pots with mixed crocks and charcoal broken small, nearly level with the rim, working them well in between the roots, and then surface over with a layer of about an inch of sphagnum moss, pressed firmly down. The roots that are beneath the moss should be kept moderately well supplied with water. Thus the plants are started, and will do well for a time. Ultimately they grow taller, and will make a mass of aerial roots, which cannot be lowered beneath the moss if those already there are still living; and it is not good policy to do so. It is at this stage that Vanda cœrulea first commences to deteriorate, and will surely do so if the wants of these aerial roots are neglected. Place the plants together, so that the roots (not the foliage) may be well moistened by syringing them several times daily with tepid rain water. Vanda cœrulea will grow well under general Cattleya house conditions during the summer, removing to a little warmer but well-ventilated house for the winter, when it should also be kept fairly moist at the roots.

Amongst other arrivals I notice the name of Miltonia spectabilis, which is best grown in baskets or pans suspended in a warm house, but will also do fairly well in intermediate temperature. The best compost is the usual fibrous peat and sphagnum moss in equal parts. I would here mention

that newly-imported Orchids should never be allowed to produce flowers until they have made new pseudobulbs. If allowed to do so, Cattleyas and Lælias, Dendrobiums, Odontoglossums, aad others, will occasionally push a spike immediately they are received, but such spikes should be at once removed, or the plant will become so weakened as to be almost beyond recovery.

The deciduous kinds of Calanthes are now at a right stage for repotting. They should be done annually without fail. Having been kept dry since flowering the new growth will be an inch or so high, sturdy, and healthy, with plenty of new roots pushing from the base. Let the compost be three-fourths good turfy loam broken in small pieces, and the remainder leaf soil and coarse silver sand. The pots should be drained about half their depth, and not over large, but of a reasonable size in comparison to the bulb or bulbs which they are intended to hold. They may either be grown singly, or two or more in one pot: I prefer the former. They are most likely to grow well and give best results if potted firmly. Pot to about half an inch below the rim of the pot so as to facilitate watering. Let the base of the pseudobulb be inserted a little beneath the surface of the soil, and secure it in its position by a stick thrust into the soil. The compost, of course, at the time of repotting will be somewhat moist, and the plants should require no water for about a week. Afterwards they should be watered about once a week for a few weeks, after which the supply may be gradually increased as the foliage becomes stronger and the roots more plentiful. Let Calanthes be grown in the warmest house and well up to the light: a shelf is a good position for them. If the pots are new they should be well soaked in water before using.

In our Mexican house the repotting, top-dressing, and the putting of everything straight, is now practically finished, and as a reward the roots that are pushing forth are seen to delight in the new sweet compost. Our chief aim when repotting is always to get the new roots to enter the compost as soon as possible after showing, because then not only are they out of harm's way, but are capable of rendering much more assistance to the plant than when exposed. With a view to attaining this end we endeavour, if possible, to get the new compost well up to the rhizome of the last-made pseudobulb, so that at least the newly-made roots of the first year may enter, and those of the following year or two before the plant is again repotted may have a fair chance of doing so. When the plants are large specimens this task is not easy of accomplishment, and can only be done at the cost of a good deal of time and patience, for they have generally to be divided piecemeal and again reformed into a compact handsome looking plant, without burying the back pseudobulbs, if it can

possibly be avoided. It is against Nature to smother Orchids up by placing the back pseudobulbs beneath the compost, although I admit at times, owing to the peculiar formation of the plant, it cannot be altogether avoided. Avoid it, however, as much as possible, and try to get the rhizome from the oldest to the newest pseudobulb to lie neatly but firmly upon the surface of the compost. Schomburgkias grow well in this department.

Lælia superbiens has just passed out of bloom, and is starting to grow, and should now be repotted if necessary. It should be done in the same manner as Cattleyas or Lælias. Schomburgkia Tibicinis is best managed if grown in a pan or basket, and suspended. The Barkerias, too, should be suspended in this sunny house, and must be made firm in their pans with moss, after which the grower is powerless to train the new roots into the moss, or to cause the young breaks to appear at the base of the old pseudobulb. They more frequently come half-way up, and the roots will start from the same point, pushing straight out into the air; consequently they are very straggling growers, and all they require is full sunshine close to a ventilator and abundant syringing when growing two or three times daily. The flowers of some Barkerias, however well the plants are cultivated, are very small, and give but a poor return for labour bestowed. The true B. Lindleyana is the best, and is perhaps the only one that I can recommend as being really worth growing. It has flower stems only a foot long; the flowers are brilliant in colour, closely set together, and of good substance, lasting a long while in perfection. Let no Orchid be passed by during the potting season if it can be possibly be avoided whose roots are in a badly decomposing compost. If a doubt should exist it is better to err by doing it than the reverse, as when repotted we know that the plant is on the right side, and although a slight check may result it is only for a time, and the plant will soon recover, and again make good healthy growth. To a practical grower of course there is no hesitation, a glance at the general condition of the surface roots, and the colour of the foliage is enough to show him what is going on beneath.

Our work here for the present month will principally be amongst the Cattleyas and Dendrobiums, beginning with the former, and finishing as far as we possibly can with the latter. Before its expiration most of the C. Trianæ will be finished, also C. Dowiana aurea, C. Bowringiana, C. Rex, Lælio-cattleya × elegans, and a few others that may be sufficiently advanced. Always give good drainage. I am an advocate for firm potting, the compost of peat and sphagnum moss should be worked well in between the roots without breaking them, and made firm by pressing it down with a stick. Firm potting is also best for Dendrobiums. Many of these are grown in shallow pans or baskets, therefore but few crocks are needed.

The very pretty Trichopilia suavis is now producing its flower spikes, and all the species of this genus, including those formerly called Pilumna, are best grown in a shady part of the Mexican house, or in the Cattleya house, and if treated exactly like a Cattleya will grow well, and keep free from that black disease which often takes them off if kept too wet or cold. The same conditions are also necessary for Burlingtonias, which should be grown in baskets near the light, as also should Cattleya citrina. No doubt this species is best grown on blocks of wood. The best blocks are made of living apple or pear, or, failing these, plum, whitethorn, the common dogwood, or maple may be used in a green state. Next in order come blocks of teak wood, which resists decay and fungus for a long time. If ordinary deal is used it should be charred before using.

Disas may now be removed to a cool frame facing north, or otherwise they must have a specially cool place selected for them in the Odontoglossum house. They may now be freely supplied with water throughout the summer, and care must be taken to keep them quite clean and free from insect pests. I have discontinued growing Vanda Kimballiana in the Cool house, finding that the Intermediate house temperature suits it better. It should now be given fresh moss and plenty of moisture. V. Amesiana will also grow well in the same house. The pretty little orange-coloured Odontoglossum retusum is now in flower; also Cochlioda Noetzliana and C. vulcanica gigantea. We find all these grow thoroughly well in the coolest house.

Some kinds of Cypripedium, when newly imported, are not so easy to establish as others. C. Stonei, C. Lowii, C. Haynaldianum, and such-like species, often give some trouble to keep from dying. They should be kept well shaded in a fairly moist house. The roots should be moistened occasionally, but water had better be withheld from the leaves for a time. It is best to set the plants on damp moss, propped upright. The system of laying them about on the stages, or suspending them by their heels and syringing them, is not to be commended. The repotting of the established plants must be continued as they commence to grow after flowering. Let the compost be of good lumpy peat and sphagnum moss, mixing in a little fibrous loam and silver sand, and pot firmly. Never insert the old ball of roots into the new pot without first freeing them from the old materials.

The disbudding of aerial growths from the pseudobulbs of Dendrobiums has previously been advised. A question from a correspondent, asking whether or no they should be removed, reminds me that others may also be uncertain in this matter. "Some newly-imported plants of Dendrobium nobile have broken into growth at many points of the old bulbs, as well as from the base." Providing a reasonable quantity of growths appear from the base—and such is mostly the case—those from the top must be removed.

If there is no life at the base, then leave the aerial growths to the number of one to each pseudobulb. In such a case, however, the plant would be best simply laid on moss, so that the roots could enter it, and not be potted up properly until the following year. If the plant is a rarity, these top growths, when they appear, may be propagated by taking them off when about two inches long, with a heel of the old pseudobulb attached, and potted in thumb pots, when they will make nice little pseudobulbs the first season.

ORCHID PORTRAITS.

CATTLEYA PERCIVALIANA INGRAM'S VAR. *Journ. of Hort.*, Feb. 27, pp. 128, 129, fig. 26.

CATTLEYA SCHRŒDERÆ. *Journ. of Hort.*, March 12, p. 229, fig. 37.

CYMBIDIUM × LOWIO-EBURNEUM. *Gard. Mag.*, March 21, p. 190, with fig.

CYPRIPEDIUM MASTERSIANUM. *Gard. Mag.*, March 14, p. 166, with fig.

CYPRIPEDIUM SANDERIANUM, Rchb. f.—*Gard. Chron.*, March 14, p. 329, fig. 45.

DENDROBIUM × LEECHIANUM.—*Journ. of Hort.*, March 12, p. 229, fig. 35.

DENDROBIUM WARDIANUM.—*Journ. of Hort.*, March 12, p. 237, fig. 40.

DIPODIUM PALUDOSUM, Rchb. f. *-Bot. Mag.*, t. 7464.

EPIDENDRUM × ELEGANTULUM.—*Journ. of Hort.*, March 16, p. 251, fig. 46; *Gard. Chron.*, March 21, p. 361, fig. 49.

MASDEVALLIA × SHUTTRYANA CHAMBERLAIN'S VAR.—*Gard. Chron.*, Feb. 29, pp. 262, 263, fig. 36.

ODONTOGLOSSUM CRISPUM SCHRŒDERIANUM.—*Gard. Mag.*, March 7, pp. 150, 151, with fig.

ODONTOGLOSSUM HARRYANUM.—*Journ. of Hort.*, March 12, p. 230, fig. 36.

ODONTOGLOSSUM × WILCKEANUM PITTIANUM.—*Gard. World*, Feb. 29, pp. 413, 414, with fig.

PHAIO-CALANTHE × SEDENI ALBIFLORA.—*Journ. of Hort.*, Jan. 30, p. 99, fig. 15.

STANHOPEA FLORIDA.—*Gard. Chron.*, Feb. 29, pp. 264, 265, fig. 38.

STANHOPEA OCULATA GUTTULATA.—*Gard. Chron.*, Feb. 29, p. 264, fig. 37.

ZYGOPETALUM × PERRENONDI.—*Gard. Chron.*, March 21, p. 367, fig. 50.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THERE was an exceptionally fine display of Orchids at the Drill Hall, James-street, Westminster, on March 10th, when the Royal Horticultural Society held its third meeting for the present season, exhibitors to the number of thirty putting in an appearance.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a particularly fine group, to which a Silver Flora Medal was given. It included several beautiful Dendrobiums, as D. × Thalia (D. × Ainsworthii × D. nobile nobilius), D. × Luna, D. × The Pearl, D. × Euterpe, D. × melanodiscus, D. × Ainsworthii, D. cruentum, D. nobile, and D. × Kingiano-speciosum (D. speciosum ♀ × D. Kingianum ♂) with several racemes, C. × barbato-bellum (C. barbatum Warneri ♀ × C. bellatulum ♂), C. × calloso-bellum, and a very remarkable variety of C. × conco-Lawre called Janus, in which one petal and half the dorsal sepal were yellow, while the rest of the flower was purple; C. Rothschildianum, Lælio-cattleya × Thetis (L.-c. × exoniensis × L. pumila), two plants of the handsome Cattleya Trianæ Leeana, Calanthe × Stevensii, a well-flowered plant of Camaridium Lawrenceanum, Epidendrum × Endresio-Wallisii, &c. The following received Special Awards:—Cymbidium × Lowio-eburneum, said to be the reverse cross of C. × eburneo-Lowianum, First-class Certificate; Dendrobium × Clio (D. × splendidissimum grandiflorum × D. Wardianum), Award of Merit; and Brasso-cattleya × Lindleyana (Rolfe), a splendid plant with eighteen flowers, Cultural Commendation.

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr. Mr. Johnson), showed a fine group of remarkably well-grown Dendrobiums, to which a Silver Flora Medal was given. It contained the beautiful D. nobile Amesiæ, D. n. nobilius, D. n. Statterianum, and other forms of that species, the beautiful D. × Rolfeæ, D. × splendidissimum grandiflorum, and other hybrids.

W. Vanner, Esq., Camden Wood, Chislehurst (gr. Mr. Robbins), received a Silver Banksian Medal for a neat group of good things, including the handsome Phaius × Cooksoni, P. × Marthæ, Odontoglossum × Wilckeanum, Calanthe Regnieri, good forms of Cattleya Trianæ, Cœlogyne cristata Lemoniana, Cypripedium × Calypso, C. × Creon superbum, Lælia harpophylla, Dendrobium luteolum, Sophronitis grandiflora, Cymbidium × eburneo-Lowianum, and others. Odontoglossum crispum Arthurianum, a very richly blotched form, received a First-class Certificate, and the pretty little Dendrobium velutinum, a Botanical Certificate.

Baron Sir H. Schroder, The Dell, Egham (gr. Mr. Ballantine), sent cut spikes of several magnificent Orchids, and received a Silver Banksian Medal. It included the magnificent and unique Odontoglossum Pescatorei

Veitchianum, the handsome O. crispum Rex, a large spike of Odontoglossum brevifolium, Calanthe × Baron Schroder, a large and very richly-coloured hybrid, and a form of the same with lighter coloured flowers.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), exhibited a number of beautiful hybrids, to five of which Awards of Merit were given. These were Lælio-cattleya × Doris, a charming thing described at page 79 of our second volume, Dendrobium × Doris l. c. p. 142, D. × Cassiope virginale, D. × dulce, Oakwood variety (D. aureum ♀ × D. Linawianum ♂), and D. Kenneth (said to be from D. Bensonæ ♀ and D. Maccarthiæ ♂). D. × Harold, a pretty form obtained from D. Findlayanum ♀ and D. Linawianum ♂, was also shown.

Charles Winn, Esq., The Uplands, Selly Hill, Birmingham (gr. Mr. Armstrong), was awarded a Silver Banksian Medal for an excellent group, including Dendrobium Wardianum, Upland variety, remarkable for the unusually large blotches on the lip, a very good Cattleya Trianæ, and a fine collection of Dendrobiums, including eight fine forms raised in the collection.

Sir F. Wigan, Clare Lawn, East Sheen (gr. Mr. Young), exhibited Miltonia Roezlii splendens, a very large and richly-coloured form with twenty-eight flowers, to which a Cultural Commendation was given. A good Dendrobium nobile, good plants of Cœlogyne sparsa, the fine Selenipedium × Perseus superbum, and the pretty hybrid Dendrobium **× Wiganiæ (D. nobile ♀ D. × signatum ♂).**

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), received an Award of Merit for Cattleya Trianæ Crawshayana, a large and very **richly-coloured form.**

Welbore S. Ellis, Esq., Hazlebourne, Dorking (gr. Mr. Masterton), received a Cultural Commendation for a well-grown pan of Cœlogyne **cristata alba.**

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), showed a fine plant of Dendrobium Kingianum, to which both a Botanical Certificate and a Cultural Commendation were given, also Cyrtopodium punctatum, &c.

J. W. Arkle, Esq., Holly Mount, West Derby, Liverpool, sent a two-flowered spike of the handsome Cattleya Trianæ Arkleana (figured at page 81), which, however, was rather past its best.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), sent the pretty hybrid Dendrobium × Findlayano-Wardianum : a promising thing.

C. J. Crossfield, Esq., Gledhill, Sefton Park, Liverpool (gr. Mr. Barkley), exhibited a beautiful Cattleya Trianæ alba.

C. J. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), sent Cypripedium × viridiflorum, whose parentage was not recorded.

F. W. Moore, Esq., Royal Botanic Garden, Glasnevin, sent the curious **Oncidium saltabundum.**

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), sent Cypripedium × Winnianum and C. × Wottoni (C. callosum ♀ × C. bellatulum ♂).

The Hon. Mrs. Packenham, Fordingbridge (gr. Mr. Church), sent some good varieties of Cattleya Trianæ.

Pantia Ralli, Esq., Ashtead Park, Epsom, exhibited a small yellow-flowered Sobralia, since called S. luteolum, Rolfe, a form of Odontoglossum × Andersonianum, and O. Rossii rubescens.

The Hon. Walter Rothschild, Tring Park (gr. Mr. Hill), sent Cypripedium × Morganiæ from one of the original plants.

G. W. Rowe, Esq., Claremont Drive, Timperley, Cheshire, showed the beautiful white Dendrobium nobile Amesiæ.

A. Warburton, Esq., Vine House, Haslingden, sent Dendrobium nobile Warburtonianum.

Messrs. James Veitch & Sons, Chelsea, staged a remarkably fine group, to which a Silver Flora Medal was given. It included Dendrobium × Cybele and D. × C. nobilius, D. × Euryalus, D. × Æneas (D. japonicum ♀ × D. crystallinum ♂), D. atroviolaceum, Cypripedium exul, C. × Germinyanum, C. Victoria-Mariæ, C. × Winnianum, C. × microchilum, Lælia harpophylla, and L. glauca, a good Trichopilia suavis, Cœlogyne cristata alba, &c. A First-class Certificate was given to Epidendrum × elegantulum (E. Wallisii ♀ × E. × Endresio-Wallisii ♂), a handsome hybrid about intermediate between the two parents, and an Award of Merit to Lælio-cattleya × Doris var. Xantho, the reversed cross of the original, and much lighter in colour.

Messrs. F. Sander & Co., St. Albans, staged a group of fine things, to which a Silver Banksian Medal was given. It included Phaius × Cooksoni, P. × amabilis, P. × Marthæ, Spathoglottis Kimballianum, S. Lobbii, Lycaste Skinneri leucoglossa, Angræcum sesquipedale and A. Humblotii, Odontoglossum Pescatorei, O. × Wilckeanum, O. luteopurpureum, Cœlogyne cristata alba, Vanda Bensoni anchorifera, Anguloa uniflora (Syn. A. alba magna), Maxillaria sanguinea, and various Dendrobiums and Cypripediums. The curious little Dendrobium glomeriflorum, with sessile heads of light pink flowers, almost like clover heads, received a Botanical Certificate.

Messrs. Hugh Low & Co., Upper Clapton, also received a Silver Banksian Medal for a fine group, including good forms of Cattleya Trianæ, Cymbidium Lowianum, several good Dendrobiums, as Devonianum, Hildebrandii, primulinum, cretaceum, nobile, crassinode, Findlayanum, superbum, and Phalænopsis, Odontoglossum gloriosum, and various forms of O. crispum and O. × Andersonianum, Miltonia Roezlii, Cypripedium × Winnianum, C. × T. W. Bond, &c.

Mr. J. Cypher, Cheltenham, also received a Silver Banksian Medal for a

fine group, in which well-grown Dendrobiums were conspicuous, as D. × Rubens, D. × nobile Cypheri, and other fine forms of D. nobile, and hybrids from it. It also contained Epidendrum xanthinum, E. × O'Brienianum, and its two parents, E. radicans and E. evectum, and some nice plants of Odontoglossum blandum.

M. A. A. Peeters, Saint Gilles, Bruxelles, sent several very fine things, including Miltonia × Bleuana, M. × B. nobilior, and the interesting Cypripedium × Harrisianum virescens, described at page 206 of our last volume. A First-class Certificate was given to Miltonia × Bleuana aurea, with clear yellow markings at the base of the lip, and an Award of Merit to the handsome Zygopetalum × Perrenondi (Z. intermedium ♀ × Z. Gautieri ♂).

Mr. W. Bull, Chelsea, sent Lycaste Skinneri alba with a very large flower.

Messrs. B. S. Williams & Son, Upper Holloway, sent a plant of Catasetum discolor vinosum.

Messrs. John Laing & Sons, of Forest Hill, also included a few Orchids in a collection of miscellaneous plants.

At the meeting held on March 24th there was again a very brilliant display, the various groups staged containing numerous examples of Dendrobium nobile and its varieties and hybrids, many good forms of Cattleya Trianæ, and numerous Odontoglossums, especially of the series of hybrids between O. crispum and O. gloriosum. We must content ourselves with noticing the more remarkable examples in the various groups.

F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr. Mr. Stafford) received a Silver Flora Medal for a brilliant group, consisting largely of well grown plants of Dendrobium nobile and its varieties and hybrids, a well-flowered plant of D. × Schneiderianum receiving a Cultural Commendation. D. n. Ballianum, a fine plant of D. nobile nobilius, and D. n. Amesiæ deserve special mention; also a good Odontoglossum × multis and Cypripedium × Swinburnei magnificum.

An Award of Merit was given to the magnificent Cattleya Trianæ Reine des Belges exhibited by Sir Trevor Lawrence, who also sent a flower of Lælio-cattleya × exoniensis curiously out of season.

A similar Award went to Odontoglossum crispum Evelina, a variety regularly spotted with red-purple and beautifully undulate, exhibited by Baron Sir H. Schröder.

H. Mason, Esq., Shipley, Yorks, received an Award of Merit for Odontoglossum × Ruckerianum Masoni, a very richly coloured form, with a raceme of sixteen flowers, and a similar Award for O. × Humeanum excellens with very dark sepals. This plant was remarkably well grown,

bearing a raceme of seven flowers, in recognition of which a Cultural Commendation was also given.

Odontoglossum × Coradinei Rosefield var., from the collection of De Barri Crawshay, Esq., also received an Award of Merit. The raceme bore thirteen fine flowers, three inches in diameter across the petals, the ground colour being yellow, and the blotches large and few in number, one only being found on each petal.

Maxillaria lepidota, from the collection of Welbore S. Ellis, Esq., which received a Botanical Certificate, was a well-grown plant with thirty flowers. A Cultural Commendation was also given to a remarkable plant of Odontoglossum crispum, bearing a panicle with ten branches, and an aggregate of sixty-five flowers. It belongs to the branching type originally described by Lindley, with rather small white flowers.

A fine Cattleya was exhibited from the collection of C. Ingram, Esq., of Godalming, derived from C. Lawrenceanum ♀ and C. Mendelii ♂, and thus the reverse cross of C. × William Murray, to which, however, it must be referred.

Several beautiful Dendrobiums came from the collection of N. C. Cookson, Esq., two of which received Awards of Merit, namely, D. × Murrayi, described at page 166 of our last volume, and D. × dulce picturatum, a remarkable form in which the flowers were marbled or variegated throughout with purple on a lighter ground. D. × Astrea and D. nobile burfordiense were also noteworthy.

Cypripedium hirsutissimum Stand Hall var., from the collection of T. Statter, Esq., received an Award of Merit. It is a very dark form, the dorsal sepal being deep purple brown except the narrow green margin.

Odontoglossum × excellens, Rosslyn var., is a large and handsome form, with broad segments, from the collection of H. T. Pitt, Esq., to which a First-class Certificate was given.

Dendrobium Wardianum grandiflorum, from the collection of John T. Gabriel, Esq., of Streatham, is a gigantic flower, $4\frac{1}{2}$ inches in diameter across the petals, and the lip $1\frac{3}{4}$ inches broad.

We may also mention Cypripedium × Olenus and C. × Wottoni, from the collection of R. I. Measures, Esq.; Odontoglossum nebulosum from H. Grinling, Esq., of Stanmore; O. × Andersonianum from J. W. Kitson, Esq., Elmet Hall, Leeds; Phaius Wallichii Mannii from Pantia Ralli, Esq.; and a good Dendrobium × Ainsworthii from A. Chambers, Esq., Dumfries.

The trade collections contained several large and excellent groups, in which most of the plants which flower at this season were well represented.

Mr. W. Bull, of Chelsea, staged a very large and showy group, to which

a Silver Flora Medal was given. It contained a fine lot of Odontoglossums, including Edwardii, Uroskinneri, Rossii, a fine O. × Wilckeanum, good forms of O. × Andersonianum, good plants of Trichopilia suavis and Cypripedium exul, C. Charlesworthii, Oncidium sarcodes, Cattleya Schroderæ, and a large number of other showy things.

A Silver Flora Medal also went to Messrs. James Veitch & Sons for an excellent group of fine things, among which we noted Dendrobium atroviolaceum with four racemes, D. Dearei, a well-flowered D. Devonianum, a fine Bifrenaria Harrisonæ, Cypripedium Chamberlainianum, several fine forms of Cattleya Trianæ, Odontoglossum cirrhosum, with a raceme in which the three expanded flowers had each two sepals and two petals only; also a number of their beautiful hybrids. An Award of Merit was given to Cattleya Schroderæ caloglossa, in which the front lobe of the lip bore an unusually large blotch of rich purple.

Messrs. Charlesworth & Co., Heaton, Bradford, received a Silver Banksian Medal for a fine group, containing Odontoglossums ramosissimum, Lindeni, Rossii, Pescatorei, Hallii, cirrhosum, and others; Maxillaria Sanderiana, Oncidium sarcodes, Masdevallia × falcata, Cypripedium villosum aureum, Lycaste Skinneri exima (a fine flower, with very deep crimson lip), good forms of Cattleya Trianæ, &c.

Messrs. Hugh Low & Co., Upper Clapton, also exhibited a fine group, containing the usual showy things, in which we noted Phalænopsis Sanderiana and P. × intermedia, Cypripedium Victoria-Mariæ, Miltonia tigrinum, Trichopilia suavis, Oncidium Papilio, and numerous good Dendrobiums, Odontoglossums, Cattleyas, &c.

Messrs. F. Sander & Co., St. Albans, staged a group of fine things, including Anguloa uniflora, Cymbidium Lowianum concolor, the curious Dendrobium platycaulon, very fine forms of Odontoglossum sceptrum and O. × Wilckeanum, a very good Oncidium spilopterum, good specimens of Dendrobium aggregatum, Zygopetalum crinitum, and numerous others.

Mr. H. A. Tracey, Twickenham, exhibited a good Dendrobium Devonianum, with a pseudobulb a yard long, and crowded with flowers; also Eria confusa and Phalænopsis Stuartiana.

ORCHIDS AT MANCHESTER.

THE Spring Show of the Royal Botanic Society of Manchester was held at the Town Hall on March 13th and 14th, when Orchids, and especially Dendrobiums, were exhibited in large numbers and in excellent condition, several well-known exhibitors being represented. We can only afford space to note a few of the more remarkable exhibits.

A fine group from E. Ashworth, Esq., included a superb Dendrobium × splendidissimum grandiflorum, which received a Floral Commendation, one pseudobulb bearing thirty-six flowers. D. × Schneiderianum also was very fine, as well as Lycaste Skinneri, Cattleya Trianæ, and a selection of Odontoglossums.

The collection from T. Statter, Esq., included a splendid plant of Dendrobium nobile Amesiæ, which received a First-class Certificate, also various other brilliant Dendrobiums, some good Cœlogyne cristata, a splendid Cypripedium × southgatense superbum, and the dark C. hirsutissimum Stand Hall variety.

A group staged by H. Weetman, Esq., of Little Haywood, Stafford, contained a fine Dendrobium × Dominianum, some fine forms of D. nobile, some good Odontoglossums, and a brilliant example of Oncidium splendidum.

Mr. Munson exhibited a fine lot of Odontoglossums, including some good pans of O. Rossii, O. × elegans, O. crispum, Cochlioda vulcanica, and Platyclinis glumacea.

S. Hinchcliffe, Esq., of Hale, staged a fine group, including some good plants of Oncidium sarcodes, Cymbidium Lowianum, Odontoglossum Harryanum, and others, and some good Dendrobiums and Cypripediums.

Mr. J. Robson received a First-class Certificate for a light-coloured Dendrobium nobile. He also staged some good dark forms, some fine D. crassinode, Cymbidium eburneum, Phalænopsis Stuartiana, and others.

Mr. James Cypher sent some superb Dendrobiums, Cattleyas Lawrenceana, Trianæ and Lueddemanniana, Cypripedium villosum, Epidendrum × O'Brienianum, E. xanthinum, &c.

Messrs. Heath & Son sent a very fine Dendrobium nobile grandiflorum, Cypripedium Rothschildianum, C. × Swinburnei, C. Argus Moensii, a fine Cymbidium × Lowio-eburneum with fifteen flowers, some good Cattleya Trianæ, &c.

CORRESPONDENCE, &c.

G. B., Hamburg. Schomburgkia rosea and Odontoglossum × Andersonianum var. near Ruckerianum.

T. A., West Derby.- Cattleya Trianæ and C. Schrœderæ, the latter very good.

R. B. McB., Lancaster. A form of Odontoglossum × Andersonianum, with very few spots

O. O. W., Bury. Cypripedium nigritum. Dendrobium Findlayanum seems remarkable in the unusually short and much swollen nodes, but the flowers are fairly typical

We have received the Catalogue of the collection of Orchids formed by G. Marchetti, Esq., of Manor Heath, Halifax, which collection has been purchased by Messrs. Charlesworth & Co., of Heaton, Bradford, and will be distributed by them. The collection contains a large number of choice things, some of which were acquired at the sales of other noted collections.

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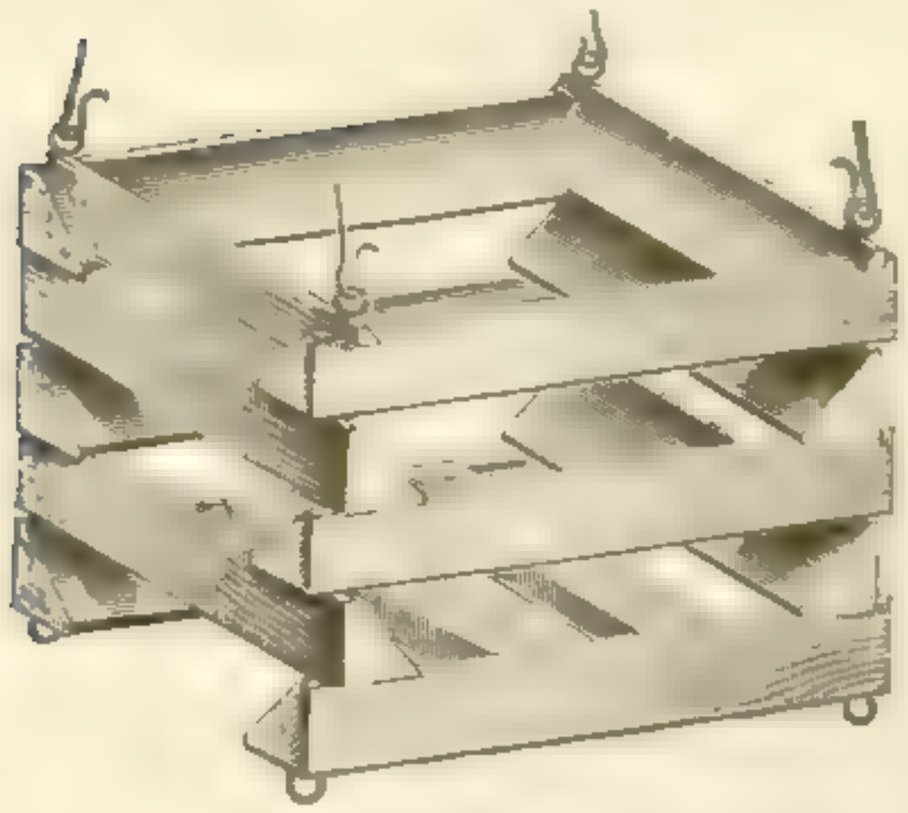

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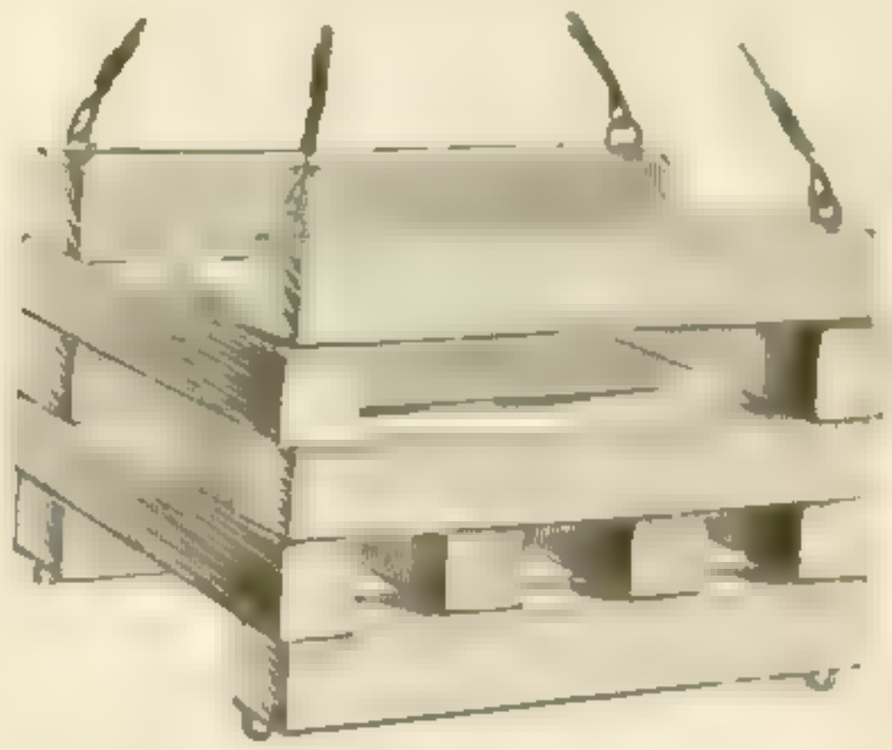

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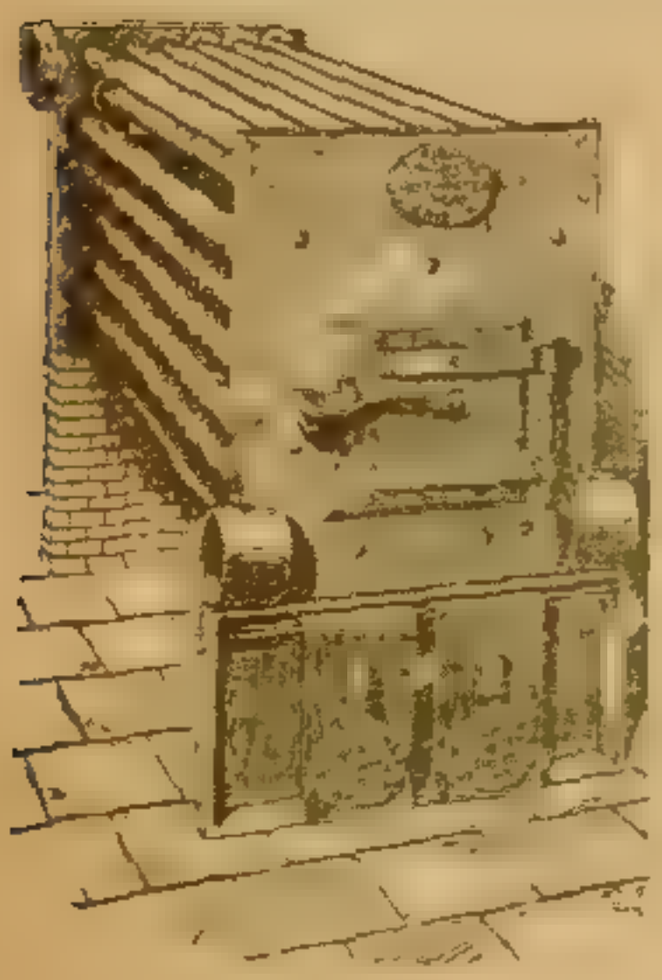

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THE ORCHID REVIEW.

VOL. IV.] *MAY*, 1896. [No. 41.

NOTES.

THE next meeting of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, on May 5th, when the Orchid Committee will meet at the usual hour of 12 o'clock, noon.

The Great Annual Flower Show of the Society will be held in the Inner Temple Gardens, Thames Embankment, on May 19th, 20th, and 21st, when the Orchid Committee will meet an hour earlier than usual, namely, at 11 o'clock a.m. As usual on this occasion, a number of Silver Cups and **Medals will be awarded according to merit.**

A fine richly-coloured flower of Cypripedium × Ledouxiæ described at page 117 of our first volume has been sent from the collection of R. le Doux, Esq., West Derby, Liverpool, and much resembles a fine form of C. × Creon. Mr. Archer thinks that the record of C. callosum being one parent is correct, as some of the seedlings show distinct warts on the petals, and the foliage is about intermediate between that species and C. × Harrisianum.

Referring to Cypripediums with twin-flowered scapes (pp. 1, 66), Mr. Archer also remarks that it is common in the collection just named, especially in C. callosum, C. barbatum, C. × Ashburtoniæ, C. × Leeanæ, C. × **Daviesianum, and sometimes C. × Harrisianum.**

A very curious flower of Cattleya Mendelii has been sent from the collection of F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey, which has only two sepals, two alternating petals, and a straight column with two anthers, which again alternate with the petals, and thus stand opposite the sepals. The colour is light blush. Every bulb on the plant is said to be crippled. We suspect that it may be out of the importations alluded to at **page 236 of our last volume.**

A remarkable flower of Cattleya Trianæ comes from the collection of W. Thompson, Esq., of Stone, in which the lower edge of each petal is completely united to the column, and thus forms a lip-like organ above the ordinary lip and partly within it, giving a most curious appearance to the flower.

Two flowers of Dendrobium Wardianum come from the collection of Major-General E. S. Berkeley, of Southampton, in which the petals are absent, or in reality metamorphosed into anthers, for there are three anthers side by side on the back of the column. Thus they are in the same condition as the abnormal flowers of D. nobile mentioned on page 132.

Several fine forms of Dendrobium nobile from imported plants come from the collection of W. P. Burkinshaw, Esq., of Hessle, including two nearly equal to the variety giganteum, and one in which the upper halves of the sepals and petals, and apex of the lip, are of a peculiar purplish rose, with a slight flush of salmon colour. It is very distinct and pretty, and may bear the name of D. n. roseum.

A very pretty form of Cattleya Trianæ comes from the same collection, in which the flower is rosy-lilac throughout, except the disc, on which the yellow is almost entirely confined to the radiating veins.

Several fine Odontoglossums have been sent from the collection of R. Brooman White, Esq., of Arddarroch, including a heavily-blotched form of O. crispum, allied to the variety apiatum, O. × Humeanum aspersum, O. × Andersonianum lobatum, and O. × A. egregium, the last-named having the sepals and petals somewhat suffused with purple on a yellow ground, and heavily spotted with dark brown, giving it a very distinct appearance. An exceptionally large form of O. × Andersonianum is also enclosed, which at first sight might be taken for something else. The shape of the lip, however, and the arrangement of the column wings and crest, are quite typical.

Two fine forms of the variable Odontoglossum luteopurpureum come from the collection of John S. Moss, Esq., Wintershill, Bishop's Waltham, one of which has the ground colour of the lip quite white, and the sepals and petals extremely dark, the sepals having only a small yellow area at the apex and base.

An exceptionally fine flower of Dendrobium nobile Cooksoni has been sent from the collection of Dr. Hodgkinson, The Grange, Wilmslow, which is one of 170 borne on a medium-sized plant, forming a magnificent sight.

The development of the flower shows that the plant is very vigorous and well cultivated. A flower of D. Wardianum giganteum, measuring 4½ inches across the very broad petals, and the lip 1¾ inches broad, and a fine Cattleya amethystoglossa are also enclosed.

It is interesting to note that the rare Coryanthes Wolfii is also flowering in the same collection. The history of this plant is given at page 264 of our first volume.

A spray of Oncidium ansiferum has been sent from the collection of J. D. Hodgson, Esq., of Newcastle-on-Tyne. The plant came from Central America, and is marked by its large oval flattened pseudobulbs, which are about four inches long. It bears two spikes, each with about forty or fifty flowers.

An inflorescence of the curious little Australian Dendrobium linguæforme has been sent from the collection of W. E. Ledger, Esq., Wilton Road, Wimbledon. It is a very interesting little plant, with flowers closely resembling those of D. æmulum, but with a totally different leaf, being in fact oblong, very short and fleshy, and borne solitary on a nearly obsolete pseudobulb.

A good form of Cattleya Trianæ comes from the same collection, the flower being wholly light rosy lilac, except on the disc, and here the yellow blotches are replaced by a number of deep yellow nerves.

With reference to the two-flowered scape of Lycaste Skinneri, mentioned at page 66, Dr. A. W. Hoisholt, of Stockton, California, writes that one has also appeared in his collection. A photograph of it is also enclosed.

A photograph and flower of a curious Odontoglossum, supposed to be O. Rossii, is also sent from the same collection. The lip is obtuse, or very slightly bilobed, and possibly not yet developed, and we should like to see it at a future time of flowering.

With respect to our note on Odontoglossum crispum aureum at page 85, Mr. Stevens writes that the reference to a plant of the same name receiving an Award of Merit on June 12th, 1894, is a mistake made in our report of that meeting (*supra*, II., p. 223), the name of the said plant being O. luteopurpureum sceptrum aureum. Readers would do well to make the necessary correction.

Several fine flowers of the richly-coloured Cypripedium barbatum Warneri come from the collection of O. O. Wrigley, Esq., of Bury.

Mr. Wrigley remarks that they never flowered better than this spring. A fine flower of C. Lawrenceanum atrorubens, noted at page 128 of our second volume, is also enclosed. It is slightly smaller than the type, but much darker throughout, the dorsal sepal especially being very richly coloured. The plant was purchased at the Stand Hall sale, and originally came from Messrs. Backhouse & Son, of York.

An unusually fine form of Cypripedium niveum has been sent from the collection of W. H. Lumsden, Esq., of Balmedie, Aberdeen, which measures $3\frac{1}{4}$ inches across the petals. The dorsal sepal is nineteen lines broad, and the petals fourteen lines. It is remarkable for its unusual development, being typical in other respects, and may bear the name of C. n. majus.

A peculiar form of Odontoglossum × Coradinei comes from the same collection, in which the yellow ground colour of the sepals and petals is suffused with a light rosy tint, approaching what is seen in O. × Ruckerianum. In other respects it is quite typical. The rosy tint of O. crispum is generally obliterated in this hybrid, and the present variety may be called **O. × Coradinei suffusum.**

DENDROBIUM NOBILE ABNORMAL.

A LARGE but very curious flower of Dendrobium nobile has flowered in the collection of Major-General E. S. Berkeley, of Bitterne, Southampton. All the flowers on the plant are alike, having only four segments, namely the lip, the two lateral sepals, and a fourth organ, which occupies the position of the dorsal sepal, though it apparently consists of the two petals confluent in one, as it grows from inside the lateral sepals, and is also much brighter in colour. Thus the dorsal sepal appears to be absent. The column is well developed, but bears no anther. Whether the peculiarity is constant **remains to be seen.**

One of the flowers on a plant of Dendrobium nobile nobilius, in the collection of Sir F. Wigan, Clare Lawn, East Sheen, is somewhat similar, as the lateral sepals and lip are normal, the dorsal sepal absent, and replaced by the two united petals. The column is very curious, as the normal stamen (A 1 of the Darwinian notation) is reduced to a barren filament, while the two lateral stamens of the inner whorl (a 1 and a 2, which are the fertile stamens of Cypripedium) are developed, and each contain pollen. The stigma is abnormal. This flower is very interesting, and the arrangement is such as to show clearly the nature of each of the parts. The rest **of the flowers are typical in shape.**

NOMENCLATURE OF ORCHIDS.

THE present confusion in the nomenclature of Orchids is almost a scandal, and threatens to be quite intolerable as the number of hybrids and so-called varieties continually increases. I had hoped that something would be done by the Orchid Committee of the Royal Horticultural Society to bring order out of chaos; but it seems to me now that they are among the worst offenders, and unless they repent and change their methods, it is unlikely that they will be able to control the sins of others.

As an illustration of the proceedings of what is, after all, the body of greatest authority upon the subject in England, I will take their decisions in the question of reverse crosses. The other day I sent a new hybrid, Masdevallia Harryana × Shuttleworthii, and proposed to name it "Chamberlainiana." The Orchid Committee, however, declined to recognise it under a specific name on the ground that the reverse cross of Shuttleworthii with Harryana had already been made and named "Shuttryana." They accordingly permit me to call my plant "Masdevallia Shuttryana, Chamberlain's variety" if I have patience to use so lengthy a description.

On a subsequent occasion Mr. Ingram sent a new Cattleya Lawrenceana × Mendelii. As the reverse cross is named already "W. Murray," the Orchid Committee appear to have refused a distinct name.

Again Messrs. Veitch sent a Lælio-Cattleya Trianæ × harpophylla. The reverse cross has already been named "Doris": accordingly the new **hybrid is to be called "Doris, variety Xantho."**

In these three cases the rule has been that a reverse cross is not entitled to a distinctive name. The decision is open to criticism, as there are very great and marked differences in the reverse crosses of different Orchids. At the same time I should be prepared to submit to it if the Orchid Committee themselves were consistent; but, so far from that, I find that at the last Show a new Dendrobium hybrid was named "Cho," which is only the reverse of "Lutwycheanum"; "burfordiense" has been named, although it is the reverse of "dulce"; "chrysodiscus" is the reverse of "melanodiscus": and "micans" is the reverse of "Euryclea."

There are, however, worse anomalies than these arising from the way in which the results of the same cross—and even of the same seed-pod—have been allowed to be exhibited under different names. Thus, "pallens," "Aurora," and "Cybele," are all three named hybrids of the same cross as **"xanthocentron."**

"Hebe," "Dido," "Rainbow," and "Luna," are all the same cross as **"melanodiscus."**

"Thalia," just named, appears to be almost identical with "Rubens"—

the latter being a cross of "Leechianum" with "nobile nobilus," and the former of "Ainsworthii" with the same pollen parent.

Is it likely that amateurs and ordinary dealers will observe any rule or reason whatever as long as the Orchid Committee permits such gross inconsistencies?

If possible the latitude allowed to what are called "varieties" is even worse than the loose treatment of hybrids. Every nurseryman and every amateur is permitted at his own sweet will and pleasure to affix a distinctive name to any plant that strikes his fancy, or appears to vary in any degree from others in the same batch. As there is no rule and no authority, so **there is no limit to the abuse of this practice.**

The names thus given are frequently the same as those that have been already taken for other varieties. They are altogether illusory and unscientific; and their constantly growing number is destroying the value **and meaning of all specific names.**

I believe that in the long run everyone would benefit if some authentic quality attached to every distinctive name, and if a buyer could be certain that in purchasing a "magnifica," or "grandiflora," or "gloriosa," he was **really getting a plant of definite character.**

As it is, all confidence in these fancy descriptions is being rapidly lost, and prudent collectors have ceased to buy varieties unless they can see **them in flower.**

Under these circumstances, I am tempted to make a suggestion for the consideration of the Royal Horticultural Society and in the interest of all **who take an interest in Orchid cultivation.**

It is that the Orchid Committee should establish a "Hall Mark" for valuable Orchids, which would speedily be recognised by all cultivators, and which would be insisted on by buyers as a security against fraud or **exaggeration.**

All that would be necessary is that the Committee should prepare a form of label (bearing some distinctive mark, such as the seal of the Society —if it has one—or the letters R.H.S.), which could be filled up as required with the name of the plant to which it is attached.

This label, when filled up, should be granted by the Committee on payment of a small fee —say, of half-a-crown— to any plant exhibited at one of the Shows, and named by the Committee according to its rules. These rules should lay down the general conditions on which specific names would be allowed by the Committee: and I hope they would strictly preclude the grant of such names to any variety which did not differ most distinctly from the type, and to any hybrid from a cross already named.

The result of an arrangement of this kind would be that no buyer would pay high prices for a hybrid or variety which had not the Society's

"imprimator," and was not authenticated by them as being what it professed to be. The growers and amateurs would send plants of special novelty and merit to the Shows in order to get the "Hall Mark" of the Society, since all plants and varieties which could pass the test would have an assured and increased value. On the other hand, names which had no official approval would cease to carry the slightest weight, and would soon be dropped altogether.

In this way not only would the interest of the Shows increase and the finances of the Society be benefited, but we should gradually get rid of hundreds of names which have been affixed without any kind of authority to plants not one bit better than the ordinary type, and we should make some approach at any rate to an orderly and scientific nomenclature of new varieties under the control and responsibility of an expert tribunal

J. CHAMBERLAIN.

Highbury, Moor Green,
Birmingham.

BOTANICAL ORCHIDS AT KEW.

SEVERAL of the botanical Orchids mentioned last month are still flowering in the Kew collection, and numerous additional ones have taken the place of those which are over. One of the prettiest is that little gem Phalænopsis Parishii, with its white sepals and petals and purple lip. It remains in flower a long time, and but for the difficulty of obtaining it, would probably be more widely grown. Dendrobium hainanense (Rolfe) is a free-flowering species from the island of Hainan, with terete leaves and numerous white flowers with a yellow spot on the disc of the lip. Microstylis macrochila and M. Scottii are also opening; their foliage is always elegant, and the large purple flowers of the former should ensure for it a place in every collection where botanical Orchids are grown. Among Angræcums may be mentioned the pretty little A. fastuosum and the rare A. Germinyanum, a native of Madagascar. Cottonia macrostachya has flowers remarkably like a beetle with purple-brown elytra. Polystachya bracteosa, which is remarkable for its dorsally flattened pseudobulbs, is producing several racemes of greenish flowers.

Among Coelogynes may be mentioned the curious little C. uniflora, and C. carinata (Rolfe) from New Guinea; also the allied Pholidota ventricosa. Several Maxillarias are now in flower, including the curious M. aciantha with fleshy segments, M. Meleagris and M. pumila. Leptotes bicolor is another little gem, which is exceedingly pretty when well grown.

Of the Pleurothallis group may be mentioned the pretty little Masdevallia Carderi, M. demissa, and others, also Pleurothallis cardiocrepis; and of the Epidendrum group Hexadesmia fasciculata, Epidendrum Linkianum, and E. varicosum. Sarcochilus Fitzeraldi is a pretty little Australian species with some light purple spots in the centre of the white flowers, while the allied Cleisostoma Wendlandorum has dense spikes of small yellow flowers. A few other species now in flower are Eria confusa, Cirrhopetalum fimbriatum, Xylobium corrugatum, and Cypripedium virens, the latter being one of the least attractive of the group with tessellated leaves.

THE DENDROBIUM BEETLE.

You will receive a parcel containing a pseudobulb cut from a plant of Dendrobium Phalænopsis. I believe you will find it infested with a brown beetle, and its larvæ, and if you carefully examine it before cutting it open you will be able to find the borehole by which the insect has entered. I shall be much obliged for some information as to the life-history of this insect, and also whether it be the same pest which attacks Cattleyas. Amongst 100 plants purchased last autumn we have had to destroy many pseudobulbs, and fresh discoveries are being made almost daily.

O. O. WRIGLEY.

Bridge Hall, Bury.

A note on the same subject appears in the February number of the *Kew Bulletin* (p. 62), under the title "Beetle-larvæ attacking Orchids," a summary of which it may be interesting to reproduce. Sir Trevor Lawrence submitted to Kew pseudobulbs of Dendrobium Imperatrix attacked by larvæ, which were handed to Mr. W. F. H. Blandford, Lecturer on Entomology at the Forestry Branch of the Indian Civil Engineering College, for report. Mr. Blandford states that they are beetle larvæ, and pretty certainly those of a Longicorn beetle, though they show some divergences from the ordinary type, probably correlated with their habitat in a soft stem instead of hard woody tissues. It is impossible to identify such larvæ positively, except when their mode of life is such as to exclude any doubts, but it happens that the larvæ of the only two known species of the genus Diaxenes live in Orchids. These are D. Taylori, described from an example found in the Royal Exotic Nursery, Chelsea, where it was found gnawing the stem of a Phalænopsis from Manila, and D. Denbrobii, known by four specimens taken alive on imported Dendrobium atro-purpureum and D. nobile, the latter said to have been imported from Moulmein (where, however, D. nobile is not known to grow). Three

examples of Diaxenes Taylori in the British Museum are ticketed "Moulmein." Whether the larvæ submitted to Mr. Blandford belong to other species of Diaxenes, or even to the genus, must necessarily remain unknown, unless the beetle be bred from them: but it is conjectured, from the habitat of the host plant, that it will prove distinct. Should Sir Trevor Lawrence be so unlucky as to breed out the beetles in his conservatory, Mr. Blandford would be glad to examine them; but, for the sake of the Orchids, he recommends that they be carefully looked over, and the affected stems destroyed. If any plants are so attacked as to be not worth saving, they might be removed to a house which contains no other Orchids, and covered with gauze netting, so as to detain any beetles which may breed out, if desired to rear them for examination. But it is most important that by careful supervision no affected stems shall be left which will distribute the insect at large in the Orchid house when they have reached the winged state. It might be possible to save pseudobulbs not as yet badly injured, by destroying the enclosed larvæ with a wire or needle, but whether this means is practicable or not must be left to the consideration of those who have care of the plants. Mr. Blandford adds that he has described a small boring beetle (Xyleborus morigerus) which has been very injurious in some conservatories to Dendrobia from New Guinea, having probably been sent out extensively with the Orchids by a firm of nurserymen, but they are not present in the portions sent.

On splitting the pseudobulb of Dendrobium Phalænopsis sent by Mr. Wrigley we found two or three larvæ, and one beetle was just boring his way out. It was not a Longicorn beetle, however, but a small brown weevil-like insect, whose very short antennæ are broad and flattened at the apex, and we suspect either the Xyleborus mentioned by Mr. Blandford or a closely allied species. What we suspect may be the same insect has been alluded to on more than one occasion in our columns and elsewhere as Xyleborus perforans, and it would be interesting to clear up the history of this and some other Orchid pests, which seem to be very imperfectly known. These insects come home with imported plants, and as soon as their presence is detected measures are taken to stamp them out. Nurserymen who find affected plants among their importations, naturally do not care to advertise the fact, and so information is not easily obtained: but there is a consensus of opinion that several Dendrobiums from New Guinea and the adjacent islands are specially subject to their attacks. Those who buy plants from this region should be on the alert to stamp them out as soon as their presence is detected, and thus prevent the mischief spreading

AN AMATEUR'S NOTES.

THE advent of Cattleyas Mendelii and Mossiæ, together with Lælia purpurata, indicate the approach of the showiest season of the year. Early flowers of each of these are now expanding, and the group will soon form a picture of loveliness. The beautiful Cattleyas citrina and intermedia, and Lælia cinnabarina, must also be added to the list. Odontoglossums are almost at their best, and include numerous forms of O. crispum, spotted and unspotted, white and pink; several forms of O. luteopurpureum, the brilliant O. triumphans, O. Pescatorei, and several others, including the hybrids O. × Coradinei and O. × Wilckeanum. Hanging from the roof is a plant of the charming little O. Œrstedii bearing a large number of flowers, which are remarkably persistent. Miltonia vexillaria is again beginning to flower, and will soon be at its best, while a plant of M. Phalœnopsis is also very pretty.

The brilliant-flowered group of Masdevallia is beginning to make a show, and includes M. × Parlatoreana and M. × Chelsoni, as well as the commoner ones. The fine old Sobralia macrantha now rivals the Cattleyas in the brilliance of its flowers, and will keep up a succession much longer. Its chief drawback is that it takes rather a lot of space. Maxillaria Sanderiana and M. luteo-alba are also among the additions to the list, together with Cypripedium Lawrenceanum, C. Volonteanum, C. exul, and C. bellatulum, the latter being planted in hanging pans, and in this way seen to better advantage. The best Oncidiums just now are O. Marshallianum, O. ampliatum, and O. cucullatum, the former being superb.

A plant not always seen at its best is the old Arpophyllum spicatum, which, when well grown, is very effective, the dense spikes of rosy purple flowers being very distinct from anything else. Phalænopsis tetraspis is a chaste and beautiful flower which will remain long in beauty, and ought to be more widely grown; another species now blooming well is P. Luddemanniana. The pretty little Helcia sanguinolenta and Diacrium bicornutum, also claim attention. Among the Dendrobiums may be mentioned D. Parishii, cariniferum, with its powerful aromatic fragrance, densiflorum, thrysiflorum, crystallinum, transparens, and the charming little D. Loddigesii as among the more notable additions to the list. Cymbidium Lowianum is now superb, and I think unquestionably the best of the Cymbidiums. It would be easy to extend the list, though the above selection contains all the more striking ones.

The collection generally is now very attractive, as not only is it gay with flowers, but the young growths are coming on well, and it is very interesting to watch their progress, and in some measure anticipate the display of the next flowering season.

DIES ORCHIDIANÆ.

ONE of my correspondents calls attention to the epidemic of provisional names, and thinks it quite time I had something to say on the subject. He purchased some of the "new Angulœa alba magna, but when it flowered it proved to be neither new nor white, but simply the old Angulœa umbrina, which he had known ever since he can remember. Yet it was again re-christened Angulœa Watsoniana," which he cannot understand and for the matter of that neither can I—but he thinks "this wholesale re-naming of well-known old plants is nothing short of a public scandal. Now, he says, we have a wonderful new Cypripedium and a Cœlogyne dated, to say nothing of others, and the question is what will these prove to be. I really cannot tell him at present, but I fully agree that there ought to be some means of ascertaining beforehand whether these so-called novelties have **any right to the title.**

He also suggests that dried flowers ought to be obtained and submitted to some expert, who would recognise old species and thus prevent well-known plants from receiving useless new names, which are only a source of annoyance to everybody. He then goes on to ask:—"What is this wonderful new Cypripedium Sanderæ? Description says it is the best Cypripedium for cutting purposes ever introduced, and that from photographs and measurements received with the plants the species is believed to be far and away the largest of the genus yet discovered. The lateral petals are much broader than in any other Cypripede we know of. The pouch is unique in shape, &c. All this sounds very promising, but have these photographs and other materials been submitted to an expert? And if not, why not? And what is this other new and magnificent Cypripedium from the Malayan Archipelago? The collector says it is certainly the grandest Cypripedium he has ever seen, and should prove one of the most sensational productions of late years. Did he take the trouble to dry a flower? I want to buy a plant or two as soon as I can find out what they are, but my experience of Cattleya floribunda and Angulœa alba magna is sufficient for **the present."**

These remarks are very much to the point, but I must leave my correspondent's questions until a future occasion: meantime I commend them to the notice of all those whom they may concern. "When found, make a note of," as Captain Cuttle would have observed. I certainly hope that the plants in question will prove new and good, but recent experiences are not encouraging, and a little repetition of this sort of thing can only have one effect, so far as buyers are concerned. In the case of Cattleya floribunda it

was announced that a dried inflorescence was to be seen, and, of course, to have submitted this to an expert would have led to its identity being established at once. And when they are not referred to some independent authority, and afterwards prove identical with some well-known plant, people naturally draw their own conclusions as to the reason: and whether they are the correct ones or not, the result is much the same in the end. It is quite time a decided protest was made against this unnecessary multiplication of spurious names called "provisional" by courtesy and while admitting that there may be cases where a provisional name may be necessary, I fully endorse the remarks of my correspondent on the subject generally.

I was much interested in Mr. Young's note on hybrids of identical parentage, at page 115, and I hope the Orchid Committee will take the hint not to certificate old hybrids under new names. I think the Nomenclature Committee and the Orchid Committee might amalgamate with advantage, and, perhaps, if the editors of the gardening papers were thrown in, they might together prepare an authentic list, and keep it up to date. Mr. Young's notes on naming in the vernacular have soon received a practical illustration, for I observe in the report of a recent meeting of the Royal Horticultural Society that "Phalaenopsis Baron Schroder superba" and "Cattleya William Murray fulgens" were exhibited. I don't know why the additions were not made in the vernacular. Possibly because they would have looked ridiculous, though I fail to see where the subtle distinction comes in. Cattleya × Murrayi fulgens or Cattleya × William Murrayi red variety I could have understood, though the former is infinitely preferable, in my opinion. However, now that the two systems of nomenclature are running side by side, I suppose we shall see some interesting developments.

ARGUS.

ORCHID BLOOMS AT A PENNY-A-PIECE.—"Only a penny! An Orchid for yer buttonhole for a penny!" Such was the ejaculation that grated on my ears in Cheapside on Wednesday, says a writer in the *Licensed Victuallers' Gazette*. Itinerary vendors frequently play "spoof," and I at once concluded that the pretty girl who was selling Orchids at a penny-a-piece was at the good old game. But I was mistaken, for I purchased a bloom of Odontoglossum vexillarium for the twelfth part of a shilling! —*Gardeners' Chronicle.*

ORCHIDS AT CLARE LAWN.

Many interesting Orchids were in bloom in the collection of Sir Frederick Wigan, Clare Lawn, East Sheen, during a recent visit, when the following notes were taken, though room was not found for them in our previous issue. A full account of the collection was given at page 78 of our first volume.

First may be mentioned the Phaleenopses, which always do well here, and though the bulk of the P. Schilleriana, Aphrodite, and Sanderiana were out during February, a few representatives remained. Phalænopsis Buyssoniana was well in bloom. Two plants of P. Lueddemanniana were flowering very strongly, one plant having three spikes up to 2½ feet long. One of these was producing a young plant on the spike, whilst several plants of P. Stuartiana had young plants on the roots. A fine plant of P. Schilleriana rested this season, but had produced a splendid millefoliate of white flowers. The plant may always be distinguished when out of flower, as the leaves are green below, and have fewer spots. Mr. Young attributes much of his success to not pulling the plants about, and certainly his plants are a mass of roots quite outside of the compost: yet they seem to obtain all they require from the atmosphere. Probably the gravel walks and the plants underneath serve to throw off a constant supply of moisture, and with proper attention to the ventilation and heating apparatus, the plants seem to be almost indifferent to the compost, which consists chiefly of crocks and sphagnum. Mr. Young occasionally syringes out the old sphagnum, adding a little fresh among the old crocks. he also uses rather small baskets, but the plants are a picture of health, as they have been for years. Under the Phalænopsis are grown Cypripediums and other things, which also do very well. In flower were Cypripedium × Lathamianum very fine C. × macropterum, × praestans, × Pollettianum, × Gratrixianum, × delicatum, and others, also Selenipedium × Dominianum and Sargentianum. The charming C. bellatulum album was doing well, growing in loose peat and tufa. Pescatorea Klabochorum and P. Dayana were also growing very well.

In another house were three plants of Cœlogyne speciosa in flower, and one of them was a picture, bearing seven spikes, and one with as many as eight flowers. Cattleya Trianæ and Schilleriana were very fine, the latter of which being particularly good. Lælia Eyasbiana was throwing up very strongly. Dendrobiums were very good, three plants of D. crassinode especially, each having six to eight flowering bulbs, and one bearing six spikes, all but one being three-flowered. Two plants of D. luteolum were also crowded with flowers, and in this state is particularly effective. D. × splendidissimum grandiflorum and many D. nobile were

good. The charming little D. × Wigamæ has already been described at page 107. A plant of Platyclinis glumacea bearing over sixty racemes of very fragrant flowers was also a picture. Comparettia falcata is a pretty species not often met with. There were some good Miltonia Roezlii, and one called M. R. splendens had seven racemes with 28 flowers and buds, two having five each. The flowers were very large, the base of the petals darkest purple, and the disc of the lip very deep yellow. The lip was two inches across. Very interesting, too, were Angræcum citratum, Selenipedium × Phædra, and the singular Ornithocephalus grandiflorus. Many plants of Masdevallia tovarensis had been a sight, one carrying as many as 40 spikes, each with two or three flowers. Mr. Young does not leave the old spikes on as some do, and thinks he gets quite as good results, while the plants keep stronger. A plant of M. ignea was also flowering well. The Odontoglossum house has been re-constructed on an improved principle, and it is hoped that the plants will show an improvement. A plant of O. × Wilckeanum bore a spike of fourteen flowers. A large number of other things were in flower, but were not specially noted.

FIGURES OF INDIAN ORCHIDS.

THE fifth volume of the *Annals of the Royal Botanic Garden, Calcutta*, edited by Dr. G. King, F.R.S., contains figures and descriptions of a century of Indian Orchids selected from drawings in the Herbarium of the Botanic Garden, Calcutta, by Sir Joseph Hooker, F.R.S., most of them having been previously described in the *Flora of British India*. The drawings are partly coloured, and represent species chiefly of botanical interest. Eighteen species of Dendrobium are figured, including D. aurantiacum, Rchb. f., D. Williamsoni, Rchb. f., and one called D. Palpebræ, Lindl., whose flowers are larger than those of the plant met with in gardens. D. crocatum, Hook. f., is a member of the Pedilonum group with orange flowers, but the others are not likely to be grown outside botanical collections. Phaius mishmiensis, Rchb. f., is a very pretty species with rose-coloured flowers, which has recently appeared in cultivation. Phalænopsis tetraspis, Rchb. f., Sarcochilus Berkeleyi, Rchb. f., and others, are well-known in gardens, though the great majority are not in cultivation. The work will be invaluable as an aid to the identification of these interesting plants.

A recent number of the *Journal of the Asiatic Society of Bengal* contains a paper by Dr. King and Mr. R. Pantling, entitled, "Some New Orchids from Sikkim." It contains thirty-three new species which have been discovered in Sikkim during the last few years, chiefly by Mr. Pantling. There are six species of the curious genus Oberonia, and most of the species are chiefly of botanical interest.

ERIOPSIS RUTIDOBULBON.

THIS fine old plant is decidedly rare in cultivation, but a plant was exhibited by the Hon. Walter Rothschild at a recent meeting of the Royal Horticultural Society, and now another is flowering at Kew, where the original plant flowered as long ago as 1840 (*Bot. Mag.*, t. 4437). This had been sent home by Purdie, who found it growing on the stem of a palm tree in the temperate region of Antioquia, at an elevation of 4,000 to 5,000 feet, where the temperature ranged from about 65° to 75°. It was the only single example he succeeded in finding. It was subsequently figured in *Pescatorea* under the erroneous name of E. bulbosa, Lindl. t. 20, and it is stated that it was met with by M. Linden associated with Cypripedium Lindeni, and the habitat of the latter is given as between the Cordillera of Merida and Lake Maracaybo. The habit of the plant is somewhat like that of Lycaste, except that the pseudobulbs are wrinkled, but the flowers are numerous, and borne on a long arching raceme. The sepals and petals are yellowish with more or less broad purple margins, and the lip reddish purple on the side lobes, and white in front with a number of black spots. In the *Orchid Album* (VIII. t. 377), basket or pot culture is recommended, and the cool end of the Cattleya house is said to suit it admirably. It should be potted when the plant begins to grow, plenty of drainage being used, and care being taken not to injure the roots, as it is rather impatient of such treatment. It is a distinct and striking plant deserving of more extended cultivation.

R. A. R.

ORCHID GROWING BY THE ARTISAN.

WHAT a marvellous advance has been made in the growing of Orchids in this country since the enormous importations have reduced their value to the price of Pelargoniums and Fuchsias! In almost every town or burghal district there are a few of the "horny-handed sons of toil" that take to their cultivation. This last week the writer has seen two collections growing under exceptional circumstances. The one was owned by John Hampson, Whitefield, a shoemaker: the other by Edward Wolfenden, Radcliffe, a stone-mason. The only access to the former's glass-house was through the workshop—where John was toiling away making clogs, so much used by workmen in the manufacturing districts of Lancashire—then through the back kitchen, and into a yard, where the small semi-span house was completely filled with a variety of Orchids, some doing well. The house was heated with hot water, and it was quite pleasing to see some nicely-grown pieces of Dendrobium Wardianum in flower, and in one or

two very good varieties. Dendrobes appear to be the favourite flowers with both rich and poor, and little wonder there is such a variety among them, as the flowers are lasting. Along with these were some Cattleyas, and Odontoglossum Rossii at the one end, which has been very cheap of late, flowering profusely. They were a nondescript lot, huddled together without any semblance of order, the desire being more to get the flowers. It was a small house, divided into two compartments, and out of his modest earnings he has saved enough to get up a very nice collection. He began buying cheap plants, but he has gone on, and is now dispensing with his common plants and getting some of the better articles. As he said, we must "creep before we walk." Every penny he can spare in a fair way goes to the purchase of Orchids. I was surprised to see, for instance, nice lots of Cypripedium × Leeanum giganteum in fine flower, and one of the best, too; and also the Stand Hall variety of Dendrobium × splendidissimum grandiflorum, as well as such good things as D. × Cooksoni and D. × Ainsworthii. In the cooler division were an excellently-grown lot of Odontoglossum crispum, and plants of that order. One would like to see the plants more orderly arranged: however, they were clean and free from insects. These men read Orchid literature greedily, but they have generally a mind of their own: and although they are in some measure guided by a Calendar of Operations, each has his own way with particular favourites. J. A. in *Gardeners' Chronicle.*

LACÆNA SPECTABILIS.

A PLANT of this rare but very pretty Orchid has just flowered in the Kew collection, producing a raceme of thirteen flowers, which are pale lilac, densely speckled all over with a darker shade of lilac-purple, and the front lobe of the lip similarly speckled with a much deeper colour. It is a native of Central America, and was originally discovered and introduced to cultivation by Warscewicz. It first flowered in the collection of Herr Nauen, of Berlin, and was described under the name of Naunia spectabilis by Klotzsch (*Allg. Gartenz.*, XXI., p. 193), who overlooked the fact that it belonged to Lindley's genus Lacæna. It is allied to Acineta, and bears a similar pendulous raceme, though the flowers differ in structure. The lip is stalked, and the side lobes erect and rounded, with a prominent callus between them, while the front lobe is broadly trulliform, again stalked, and somewhat reflexed. It is figured at t. 6516 of the *Botanical Magazine.* The only other species is L. bicolor, Lindl., a native of Guatemala, and scarcely as ornamental as the present one. It will succeed under the same treatment as the Acinetas.

R. A. R.

ODONTOGLOSSUM CRISPUM.

Our present illustration represents the remarkably well-grown specimen of Odontoglossum crispum from the collection of Wellbore S. Ellis, Esq., Hazelbourne, Dorking, to which a Cultural Commendation was given by the Royal Horticultural Society on March 24th last. As will be seen from the photograph, for which we are indebted to Mr. Ellis, the plant bore a large panicle with nine side branches beside the terminal one, and an

FIG. 8. ODONTOGLOSSUM CRISPUM.

aggregate of sixty-five flowers; indicating great vigour on the part of the plant, and excellent culture on the part of Mr. Masterton, who has charge of the collection. The flowers are medium-sized, white, and unspotted.

These branching forms of the species are not common, and it is interesting

to note that it is the one originally described by Dr. Lindley, in 1845, from a dried specimen collected by Hartweg about three years previously, "in woods between the villages of Ziquapira and Pacho," in the province of Bogota (*Ann. Nat. Hist.*, ser. 1., XV., p. 256). Hartweg recorded on his ticket that the inflorescence was sometimes branched and sometimes not, and proposed to name the species after Dr. Lindley, which the latter quietly ignored. Lindley described it as "a most beautiful species, occasionally as much as three feet high. Flowers large, yellow with purple centre." This note about the colour was not taken from Hartweg's specimen, but from a copy by Matthews of a drawing from the collection of Ruiz and Pavon, by their artist Tafala. What this drawing represents is uncertain, but probably not O. crispum, as most of Ruiz and Pavon's plants are Peruvian, and the colour bears no resemblance to any form of that species. It probably represents some imperfectly known Peruvian species, which will some day be identified, just as the Odontoglossum bicolor from the same collection has been. Hartweg's specimen has a panicle three feet high, with five side branches, and about twenty-six flowers (a few of which have fallen or been removed), which were certainly white and unspotted. The Peruvian one is yellow densely spotted in the centre with purple, and except for the broader segments is suggestive of some species with the affinity of O. pardinum. Ruiz and Pavon's drawing of Odontoglossum bicolor proved to be very accurate, otherwise the correctness of the present drawing might be suspected.

The form afterwards described by Mr. Bateman as O. Alexandræ (*Gard. Chron.*, 1864, p. 1083) had an unbranched inflorescence, and larger white flowers with broader segments. This had been collected by Weir in the "gloomy forests of Santa Fé de Bogota" at 9,000 feet elevation, and sent to the Horticultural Society. A similar form, except for the addition of a large purple spot on each sepal, was described by Reichenbach immediately afterwards as O. Bluntii (*Bot. Zeit.*, XXII., p. 415). This had been collected by Blunt for Messrs. Hugh Low & Co., and it was a plant from the last-named importation, which had been acquired by Mr. J. Day, of Tottenham, that produced the first living flowers seen in Europe. O. crispum is the most popular Orchid in cultivation, and its varieties seem almost endless, besides which it hybridises freely with all the three species with which it grows—O. gloriosum, O. luteopurpureum, and O. Lindleyanum—and it is interesting to have a figure of the original form for comparison with the numerous finer varieties which have since appeared. We have never seen so fine an inflorescence as the one here illustrated, and it certainly deserved the award given.

THE HYBRIDIST.

Phalænopsis × Ariadne.

Another very interesting Phalænopsis has been raised by Mr. Seden, in the establishment of Messrs. James Veitch & Sons, of which we have received a five-flowered raceme. The parents are P. Aphrodite ♀ and P. Stuartiana ♂, and their characters are well combined in the offspring. The leaves are said to be slightly mottled. The sepals and petals are white, and of the usual shape, and the lip is as nearly intermediate as can be, the side lobes being less oblique than in P. Aphrodite, but the markings almost as in that species, while the front lobe has subacute basal angles, the basal half or rather more being densely spotted with purple, and the rest white. The tendrils are half-an-inch long, and broad at the base, but slender above, and gradually incurved. The inner halves of the lateral sepals also bear numerous minute purple dots, as in P. Stuartiana. It is a very interesting addition to the group, and as handsome as its two parents. In shape it is comparable to P. × leucorhoda, now well known as a natural hybrid between P. Aphrodite and P. Schilleriana. It flowered for the first time when five years old.

THE CATTLEYA FLY.

As I was unfortunate enough to get in an importation of Cattleya labiata this terrible pest, I have been an interested reader of the correspondence you kindly invited on the subject, and I regret that you have had no replies of a character to relieve the minds of sufferers. Mr. Millington and his gardener seem to have exhausted every known remedy without success, and if anyone knows how to eradicate the fly, surely they will respond to your call for information, and give us the benefit of their experience. The first advice I got in the matter was to "burn the lot." Drastic enough this; but one would just about as soon throw them in the fire as have to cut off every decent lead that appears, only to find that in the succeeding lead the treatment has to be repeated, the leads always getting weaker as time goes on. I have cut them off containing pupæ in every stage to the black shining rascal just ready to get out on his deadly errand. I have noticed that in the first, and sometimes the second, lead that has been taken off, the swelling at the base is so pronounced as not to escape the observation of anyone keeping a look-out, but in later breaks no such swelling occurs, and the fly is out before it is noticed. I believe this is one of the reasons why cutting out is not so successful as it should be. Mr. Roberts, the grower at Arddarroch, sprays his Orchids very frequently with

weak tobacco water, and, judging from the cleanness and vigour of the plants so treated I am practising his method, and believe if I had adopted it earlier I might have had better success in the destruction of the pests.

T. W. RUSSELL.

Kelvinside, Glasgow.

It is evident from the remarks at pages 44, 87, and 109 that our knowledge of this troublesome pest is far from complete, and one can hardly avoid a suspicion that more than one insect is concerned, especially as it is first said to have been found on a Saccolabium. The following is briefly its history, so far as we can discover:—In 1869 a note was given by Professor Westwood of some white fleshy larvæ, with chestnut-coloured shining heads, found by Mr. Bateman feeding in the substance of the leaves of an Orchid, said to be a Saccolabium. Professor Westwood extracted a male and female pupa, which he referred to the Chalcididæ, and named the insect Isosoma Orchidearum, remarking that it was probably a vegetable feeder, though other members of the group were insectivorous, or parasitic on other insects. He added, however, that little was known of the history of the insects which attack exotic Orchids, as collectors only selected healthy specimens. (*Gard. Chron.*, 1869, pp. 196, 252, 1230, with fig.) For a long period very little farther seems to have been discovered, though there was some discussion as to whether the Isosoma was the cause of the mischief, or only a parasite on some other insect, Mr. McLachlan taking the view that it was parasitic on some Cecidomyia, which was the real cause of the mischief, and stating that he had bred both insects from galls on Cattleya roots. It is now known, however, that the larvæ of the Isosoma, which are white, are true vegetable feeders. Cecidomyia, on the other hand, has orange-coloured larvæ. In June, 1878, a gall was found on the roots of a Dendrobium in the collection of G. E. Cox, Esq., of Leyton, and inside this was found the yellow larvæ of some Cecidomyia. In 1885 a paper appeared, entitled "Galls on the roots of Orchids" (*Gard. Chron.*, 1885, xxiv., p. 84), when both the galls of Cattleya (fig. 19) and Dendrobium (fig. 20) were shown. In 1890 all the figures were reproduced (*l. c.*, 1890, viii., p. 505). Shortly afterwards Mr. C. V. Riley confirmed Professor Westwood's contention that the larvæ of Isosoma were phytophagous, as he had seen them feeding, and had bred both sexes of the insect (*l. c.*, 1891, ix., p. 597). If these are identical with those originally found on Saccabium, it is, to say the least, very curious, and suggests the question whether the Orchid on which the insect was originally found was really a Saccolabium. Next to knowing how to combat the insect when found, it is important to know with what particular species of Orchid it is imported, so as to be on the alert. It is pretty clear that recent attacks can

be traced to importations of Cattleya labiata, but the earlier ones appeared before the re-discovery of this species. Then C. Trianæ is sometimes infected, and probably before the plants come home; and either this or some other fly has been sent with Lælia purpurata. It is hardly necessary to point out that all Sarcolabiums are from the Eastern tropics. In short, it would be interesting to know precisely where the fly comes from, how to combat the pest when found, and also whether we have more than one species to deal with. It would also be useful to know whether the fly comes out at other seasons of the year beside the spring. Information on any of these points, and particularly the methods used by those who have succeeded in exterminating it, would be very acceptable

LÆLIO-CATTLEYA · DORIS VAR. VITELLINA.

We have received through Messrs. James Veitch & Sons the two-flowered inflorescence of a beautiful hybrid from the rich collection of Baron Sir H. Schroder, The Dell, Egham, which was described about three years ago by Mr. J. O'Brien, under the name of Lælia × vitellina (*Gard. Chron.*, 1893, xiii., p. 305, fig. 53). It was originally remarked that the parentage not having been recorded could only be guessed at, though the supposition was that L. harpophylla was one of the agents in its production, and Lælia Perrinii probably the other, most likely the seed bearer. The author, however, added, "I have not yet had the opportunity of examining the pollinia of the new hybrid, and therefore cannot say how they stand with relation to true Lælia." This point we can now set at rest. On examining the pollinia we find them precisely as in Lælio-cattleya, that is, with four large pollinia and four much smaller ones at the other end of the caudicles. Lælia harpophylla was evidently one parent, as is evident from the very characteristic shape of the lip, together with the colour of the flower, but it is equally certain that some Cattleya of the labiata group was the other, as might originally have been inferred from the shape of the petals. There is no perceptible approach to the very characteristic lip of Lælia Perrinii or to any of the hybrids from it—the deflexed apex of the lip mentioned by the author comes from L. harpophylla, as is evident enough on comparison—besides which it may safely be prophesied that any hybrid between L. harpophylla and L. Perrinii will have narrow petals. After consideration of all the facts we believe that the second parent was a light form of Cattleya Trianæ, which would make it a variety of Lælio-cattleya × Doris (*supra*, II., pp. 79, 111), to which it bears a remarkable resemblance, chiefly differing in having only a trace of purple on the front lobe of the lip. The agreement in the flowering period of the species now suggested as parents is also a point not to be overlooked. The flowers of the present variety are

a beautiful orange yellow, the petals 2¼ inches long by an inch broad, and the front of the lip has a very faint trace of washed-out purple on the very undulate margins of the front lobe, while the base of the column and the extreme base of the lip's disc are bright crimson-purple. It is certainly a very handsome hybrid, and further experiments will probably prove its exact parentage.

LÆLIA × LATONA.

We have received the flower of a handsome hybrid raised in the collection of T. W. Thornton, Esq., Brockhall, Weedon, from Lælia cinnabarina ♀ and L. purpurata ♂. Mr. Thornton states that the cross was made in April, 1889, and that the seed was ripe and sown seven months later, that is in the following November. The plant has now flowered for the first time, producing a raceme of five flowers. Lælia × Latona was raised from the same cross by Messrs. Veitch, and flowered in 1892, and the present one must be considered as a form of the same, though how far it differs as a variety we cannot say without being able to compare the flowers side by side. According to a figure in the *Journal of Horticulture* (1892, xxiv., p. 353, fig. 61) the original form has a broad pale margin to the lip, while in the present one that organ is rich crimson purple from the small yellow point quite half-way along the side lobes and right up to the margin, while the petals also are flushed with purple. It is a brilliantly coloured and handsome form, but whether it can be distinguished by a varietal name may be left for the present.

CALENDAR OF OPERATIONS FOR MAY.

By H. A. Burberry, Highbury, Moor Green, Birmingham.

The Cool House.—The temperature of this department should now be kept as low as possible, both night and day. Cool-growing Orchids are much injured if grown too warm. The temperature must be kept down in the day-time by heavily shading. The blinds should always be raised a foot or so from the glass, the power of the sun upon the glass being then greatly reduced. Lattice-wood blinds are good for Cool Orchid houses, as they are cooler than the ordinary ones. No plant in this department must now be allowed to suffer from drought, but it is unnecessary to keep the compost in a sodden condition. Let the plants each receive a thorough watering when showing signs of becoming dry. A slight syringing overhead is advantageous after a warm, dry day, but for this purpose clear rain water only should be used. Ventilation in abundance should now be continually given. The cold north and east winds of the past month have

had the effect of causing the foliage of Odontoglossum crispum to become very much bronzed. This will do no harm: in fact, it is generally a good sign that the plants are healthy, and likely to do well. The damping down of the houses should now be done three times daily, and it should be done well, a good supply of water always being at hand for this purpose. For damping, hard water can be used, the soft being stored for watering purposes.

There are several cool-growing species that will be in a good condition for repotting this month. Among them are more of the Odontoglossum crispum type that have bloomed and are starting to grow. Then there are many of the cool-growing Oncidiums in a fit condition, such as O. macranthum, O. tigrinum, O. ornithorhynchum, O. cheirophorum, O. varicosum, O. Forbesii, O. crispum, and any others that are starting to grow. The usual peat and sphagnum moss cannot be beaten for a compost, and the **potting should be done firmly.**

Then there are some of the small growing kinds of Masdevallia that may be repotted. This genus delights to grow in the coolest possible house during summer, but during winter the temperature should be a little higher: in fact, the Intermediate house is not too high. Too much damp and cold is the cause of the leaves dropping off or becoming spotted with black marks. The pretty little white autumn flowering species, M. tovarensis should now be attended to, and repotted if necessary, and also any of the others having passed out of bloom. Masdevallias of the more showy type, such as M. Harryana, M. ignea, and M. Veitchiana, will now be making a brilliant show in this department, intermixed with the Odontoglossums, Oncidiums, Epidendrum vitellinum, and other cool species that are in **flower. No fire should now be wanted.**

THE INTERMEDIATE HOUSE. Temperature: Day, with sun heat, 75: without sun, 65 to 70: night, 65: morning, 60 to 65. Like the preceding, this department will now require well shading from the hot sun, in order to keep down the temperature, and to be kept very moist by damping down frequently. Although air cannot be applied here in such large volume, yet a little should always be kept on if possible, and no favourable opportunity for increasing this amount should be allowed to pass by. In short, try to keep the above temperatures with as much air as possible. No heat from the hot water pipes should now be required here, unless it is occasionally of an evening, when it is cold or a frost is expected, when a little warmth would be very beneficial. Several things in this department will also require repotting; such, for instance, as the Odontoglossums of the grande type, some of the Miltonias and Oncidiums, Cymbidiums and Lycastes, Adas and the Chimæra section of Masdevallia, which should never be grown cooler than this. Trichosma suavis and Maxillarias should also be repotted, and other species which may be found to grow best here:

always bearing in mind how very important it is to do each plant at the proper time, which is, as I have said before, when making new growth from the base, and new roots are pushing forth; otherwise a good deal of exhaustion and shrivelling takes place unnecessarily.

I would also here mention once more how very important it is to experiment one's self with those plants which fail to grow freely from no apparent cause, and not to keep them too long in that house or position most generally advised, for different structures vary greatly, and certain peculiar conditions in one house may be lacking in another; therefore it is always well to make experiments with refractory species, carrying out such experiments cautiously, and treating them to different houses, or to different positions in the same house, either warmer or colder, preferring to try the cooler house or position first. It is always well to know how low a degree of temperature the various plants will stand without injury. When this is once known their cultivation is simplified very considerably, for it may generally be taken for granted that if no injury is received by a low temperature the plants are benefited by it.

THE CATTLEYA AND MEXICAN HOUSES should be kept at about the same temperature as the Intermediate; of course allowing a higher degree by sun heat, as these departments will not require so much shade, especially the Mexican house, which, if any shading is applied, should be very thin indeed; consequently, a good deal of ventilation is demanded during bright sunny weather, to keep the plants from burning, which should be avoided. In this last-named house such things as Mormodes, Coelogynes, and some of the warm-growing Epidendrums, such as E. Parkinsonianum, E. memorale, E. atro-purpureum, and E. prismatocarpum should, if not already repotted, be done without delay. In this warm, sunny, and airy department I have often set aside a small portion which has been extra shaded for the purpose of trying plants which seemed loth to grow in their own respective houses, and, strange to say, the result has been in most cases very successful; even some of the more difficult to grow of the Cypripediums have recovered there, as have also Burlingtonia fragrans, Acropera Loddigesii, and A. armeniaca.

This month will see another batch of the Cattleya house plants potted up, including C. labiata, C. Harrisoniana, C. Loddigesii, C. Schroederæ, C. Eldorado, C. Bowringiana, C. Lawrenceana, C. maxima, and any others if it is deemed necessary. Vanda suavis and V. insignis have just finished flowering, and will be done up by replacing the old sphagnum moss with new. These plants should occupy a rather shady part of the house, as also should Aerides Fieldingii and A. crispum.

EAST INDIAN HOUSE.—Temperature: Day, with sun, 85° to 90°; without sun, 75° to 80°: night, 70° to 75°: morning, 70°. Let these figures be

maintained with a free admittance of fresh air. If the outside conditions are such as to prevent the ventilators being opened, then it would be better to reduce the above figures 5 degrees all round. Make do with as little warmth from the hot water pipes as possible. For these warm houses, however, a little will still be required during the night, and perhaps also by day. The Dendrobiums, with the exception of D. Bensoniæ, D. Parishii, D. crystallinum, D. nodatum, and a few other late flowering kinds, are now all potted up, and are making new growth, and will henceforth delight in a good deal of heat and moisture, providing, as before stated, air is not denied them. Let them be suspended in pans or baskets well up to the light, but guard just at present against keeping the compost too saturated, or the new growths are apt to damp off. It is yet rather too early in the season to commence syringing, unless it is the D. Wardianums, which could be syringed and given a position at the coolest part of the house. Be on the alert for red spider in this department, which is sure to come, and more especially if the temperature is too hot or dry. The Coryanthes, Spathoglottis, Catasetums, and such like species, should now be basketed up, and put in growing order.

The mention of baskets reminds me of the improved one (West's Patent). I have now tried it, and believe it is certainly an improvement on the old one, for two most decided reasons—firstly, being so much lighter, and secondly, by facilitating the work of watering.

There are but few Dendrobiums which can be grown in a warm greenhouse temperature with other greenhouse plants, but D. Falconeri is one of them that will. It is now showing for bloom, and should receive more water. D. Falconeri grows best when fixed to a teak wood raft. During the summer when making growth it should be given copious supplies of water by being syringed several times daily, but during the winter it should have long intervals of absolute drought until the spring, when the flower-buds show. D. speciosum, an Australian species, is another that will grow well in the same temperature, as will also D. Jamesianum, and its near ally D. infundibulum. The latter two kinds should be grown in small pans and suspended.

A question that beats me is one asking "How to grow Oncidium Jonesianum," and I am obliged, for all practical purposes, to give it up. I remember about ten or eleven years ago the first importation of some thousands coming to this country: they all arrived in grand condition, and were fine strong healthy plants. It was new and pretty, and consequently the sale was brisk. This importation was followed by another, and yet another, till O. Jonesianum was one of the most common Orchids in the country. It seemed to possess a very robust constitution, and come away well, soon making a good big pseudobulb, immediately followed by a fine

spike of bloom from its base. But each year the new growth became considerably less and less, until, and within a very short period, but few plants from those thousands were left alive. Its native habitat was said to be Paraguay, where it was found growing on the top of trees, the climate being very hot—a vague account at least. Whether the collector could, or ever did give a more definite statement, I never knew, but if he did I never heard it. I have tried it in all houses and all positions, but have so far failed to find the right one. I dare say its treatment is simple enough when known. Yet it is possible, of course, that it requires some peculiar treatment which it is impossible for us to reproduce artificially, in which case it would be well to leave O. Jonesianum on its native trees at home. Perhaps, however, there are some growers who have succeeded in keeping this plant alive, and as sound in health as when imported; if so, it would be interesting to many to know how it is done. In the meantime I can only say how I have found it grow best for the longest period. It should be wired to a block of wood —head downwards that being its natural way of growing. If the block is green with the bark on so much the better. The plant should be transferred to a new block each year, about April, just as the new roots are appearing. It should then be suspended in a light position near the glass in the warmest house, and given plenty of water by syringing it. By autumn it will have made its growth and flowered, after which it should be kept very dry throughout the winter, only moistening the roots occasionally. The temperature during the resting season should also be moderately warm.

Pleiones are now growing freely, suspended in a sunny position in intermediate temperature. They are fond of a good supply of water at the root, and must never now be allowed to become dry. Syringe them at least once a day. Sobralias are now showing for flower, and if at all pot-bound with roots, will be helped by an occasional watering with weak liquid manure. Stanhopeas should now be put in larger baskets if required. The baskets should be shallow ones, having no crocks placed at the bottom. They grow best in a warm house. Zygopetalums requiring repotting should be delayed no longer. The strong growing kinds like Z. intermedium should have fibrous loam mixed in with the peat and moss. Others, such as Z. Gautieri, should be grown in baskets or on the stem of a tree fern. They are intermediate Orchids, and delight in a liberal supply of water during summer.

Cymbidiums should be attended to as they pass out of bloom. They are best grown at the coolest end of the Intermediate house. A good compost of lumpy peat two parts, and one part of fibrous loam, with a little sand and broken charcoal mixed in to keep the whole sweet, is the best. Eulophia guineensis should also be potted in the same materials, but this species, to grow it well, is better for the warmth of the East Indian house.

Cyrtopodiums are now starting to grow. They are rather difficult to flower, but if the last made pseudobulb is of a flowering size it should be made to do so by withholding water until the flower spike appears, which it will do from the side of the new growth when that is about two inches long. Like Odontoglossum citrosmum, the members of this family rarely flower if not compelled in this way. They may be grown in pots, or baskets, but should always occupy a very light position close to the glass and in good warmth when growing.

ORCHID PORTRAITS.

ANGULOA UNIFLORA.—*Gard. Chron.*, April 4, p. 423, fig. 62.

CATASETUM RANDII, Rolfe, *Bot. Mag.*, t. 7470.

CATTLEYA TRIANÆ, MRS. WARREN HOOK. *Amer. Gard.*, March 21, p. 177, fig. 49. Apparently a good C. T. delicata.

COLAX JUGOSUS.—*Garden*, April 18, p. 294, with fig.

CYPRIPEDIUM × CARNUSIANUM. *Gard. Mag.*, April 18, p. 250, with fig.

CYPRIPEDIUM × DENISIANUM. *Gard. Mag.*, April 4, p. 210, with fig.

CYPRIPEDIUM FAUL. MAJOR JOICEY'S VAR. *Journ. of Hort.*, April 9, pp. 319, 323, fig. 55; *Gard. Mag.*, April 11, p. 237, with fig.

CYPRIPEDIUM FAIRIANUM. *Gard. World*, April 11, p. 513, with fig.

DENDROBIUM × CLIO. TANTESIFLD VAR. *Journ. of Hort.*, April 23, pp. 366, 367, fig. 62.

MILTONIA × BLEUANA AUREA. *Gard. Mag.*, March 28, pp. 200, 201, with fig.

ODONTOGLOSSUM CRISPUM ARTHURIANUM. *Journ. of Hort.*, March 26, p. 273, fig. 49.

ODONTOGLOSSUM × PITTIANUM.—*Gard. Mag.*, April 11, p. 237, with fig.; *Gard. World*, April 18, p. 527, with fig. A form of O. × Wilckeanum.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THERE was again a very fine display of Orchids at the Royal Horticultural Society's meeting at the Drill Hall, James Street, Westminster, on April 7th, and a considerable number of Certificates and Medals were awarded.

Baron Sir H. Schroder, The Dell, Egham (gr. Mr. Ballantine), staged a choice group, to which a Silver Flora Medal was given. It included the large and richly-coloured Calanthe × Baron Schroder, Cattleya Lawrenceana concolor and C. L. Vincke, the beautiful Lælia × vitellina, Lælio-cattleya × Doris var. Xantho, and L.-c. × Veitchiana, Dendrobium

superbum Dearei and D. s. Burkei, and some handsome Odontoglossums, comprising O. c. flavescens with almost wholly yellow flowers, O. Hallii xanthodon, O. × Wilckeanum, O. × elegans, and a very fine form of O. triumphans.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), received a Silver Banksian Medal for a small group of fine things, including a fine Ada aurantiaca, large examples of Odontoglossum Cervantesii and O. Rossii majus, fine forms of O. luteopurpureum, O. × Wilckeanum, and O. Hallii, and a magnificent form of O. triumphans called Mrs. Guest, bearing a branched inflorescence of over fifty flowers, to which a Cultural Commendation was given.

W. C. Walker, Esq., Percy Lodge, Winchmore Hill (gr. Mr. Cragg), also staged a very effective group, to which a Silver Banksian Medal was given. It contained a fine plant of Cyrtopodium punctatum bearing an inflorescence of over a hundred and eighty flowers, some excellent Dendrobium superbum giganteum, Cattleya Mendelii, C. Trianæ, Lælia Boothiana, Cymbidium Lowianum, &c.

Major Joicey, Sunningdale Park, Berks (gr. Mr. Thorne), showed three very fine plants, to each of which an Award was given. These were a splendid example of Diacrium bicornutum, which received both a First-class Certificate and a Cultural Commendation; a fine plant of Dendrobium atroviolaceum with several spikes, a Cultural Commendation; and a large form of Cypripedium exul called Major Joicey's variety, in which the white of the sepals was unusually well developed, a First-class Certificate.

F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr. Mr. Stafford), sent several handsome Dendrobiums, including D. Falconeri giganteum, D. × Venus with over twenty flowers, and some pretty hybrids raised in the collection, to one of which a First-class Certificate was given. This was D. × Clio (D. × splendidissum grandiflorum ♀ × D. Wardianum ♂), a plant having large and handsome flowers, with the sepals and petals magenta purple, the former narrowly and the latter broadly margined with white, and the ovate-oblong lip white tipped with magenta, with the disc chocolate-coloured on an orange ground. A pretty white form called D. × Clio album was also shown.

The Hon. Walter Rothschild, Tring Park (gr. Mr. Hill), showed a well-spotted form of Stanhopea Wardii with a six-flowered inflorescence, to which an Award of Merit was given; and the rare Eriopsis rutidobulbon, which received a Botanical Certificate.

C. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), received Awards of Merit for two handsome hybrids called Cattleya × William Murray var. fulgens (Lawrenceana ♀ × Mendelii), and Lælio-cattleya × Sir William Ingram (L. purpurata ♀ × C. Dowiana aurea ♂). The latter

had dark rose sepals and petals, and a rich dark purple fringed lip with lighter veining in the centre.

The Right Hon. J. Chamberlain, M.P., Highbury, Birmingham (gr. Mr. Burberry), received an Award of Merit for Lælio-cattleya × highburiensis (C. Lawrenceana ♀ × L. cinnabarina ♂), a very pretty hybrid with two-flowered inflorescence, the sepals and petals orange-coloured, tinged and veined with purplish crimson, and the lip dark claret-crimson in front.

R. Brooman White, Esq., Arddarroch, N.B. (gr. Mr. Roberts), received an Award of Merit for Cattleya × Laute-Mossiæ (Lawrenceana ♀ × Mossiæ ♂), a charming thing with soft rose-pink sepals and petals and dark crimson lip.

J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. Davis), showed a splendid plant of Dendrobium thyrsiflorum with over thirty spikes, to which a Cultural Commendation was given.

J. T. Gabriel, Esq., Streatham Hill, received a Botanical Certificate for the rare and very pretty Chondrorhyncha Chestertoni.

Walter Cobb, Esq., Duleote, Tunbridge Wells (gr. Mr. Howes), showed Odontoglossum nævium and O. luteopurpureum nigrum, a very dark form.

T. B. Haywood, Esq., Woodhatch, Reigate, showed Dendrobium Hildebrandii album.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), sent Dendrobium albosanguineum and Cypripedium × Quies (C. Hookeræ ♀ × C. Curtisii ♂).

G. C. Rafiel, Esq., Castle Hill, Englefield Green (gr. Mr. Adams), sent a fine inflorescence of Eulophiella Elisabethæ.

A. H. Smee, Esq., The Grange, Carshalton (gr. Mr. Cummins), sent a fine raceme of Cymbidium Lowianum concolor.

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr. Mr. Johnson), sent Dendrobium Hildebrandii album.

C. Young, Esq., The Thorns, Sevenoaks (gr. Mr. Ryder), sent a fine form of Cattleya Schrœderæ.

Messrs. James Veitch & Sons, Chelsea, staged a very fine group of choice things, to which a Silver Flora Medal was given. It contained Dendrobium × micans and D. × Euryalus, the magnificent Lælio-cattleyas × callistoglossa and × Pallas, the striking Lælia × Latona, Cymbidium × eburneo-Lowianum, Masdevallia × Asmodia, Selenipediums × Phædra, × Brysa, and × macrochilum, Cypripedium × Morganiæ, and others, Oncidium ampliatum majus, Lycastes Skinneri and Rossiana, Epidendrum Wallisii, Cattleya Schrœderæ, Odontoglossums, &c.

Messrs. Hugh Low & Co., Clapton, also received a Silver Flora Medal for a very pretty group, containing a fine series of pink and white forms of Miltonia vexillaria, together with Cattleya Schrœderæ, Phalænopsis ×

intermedia Portei, a magnificent spotted form of Odontoglossum crispum, Dendrobium Boxallii, &c.

Mr. P. McArthur, London Nurseries, Maida Vale, exhibited a good group, to which a Silver Banksian Medal was given. It contained a number of good Odontoglossums, Dendrobiums, Cattleya Schrœderæ, &c., and in the centre a fine plant of Platyclinis glumacea with some three hundred spikes, to which a Cultural Commendation was given.

Messrs. F. Sander & Co., St. Albans, also received a Silver Banksian Medal for a fine group, containing Cypripedium Rothschildianum, fine plants of Oncidium varicosum, Odontoglossum × elegans, Maxillaria Sanderiana, Angræcum modestum, A. fastuosum, Cymbidium Lowianum, C. L. concolor, Epiphronitis × Veitchii, &c.

Mr. R. Gulzow, Melbourne Nurseries, Bexley Heath, staged an effective group, to which a Silver Banksian Medal was given. It contained some fine forms of Cattleya Trianæ, including a splendid C. T. alba, Oncidium Marshallianum, Lælia purpurata, Cypripedium Rothschildianum, &c.

Messrs. Linden, L'Horticulture Internationale, Brussels, also received a Silver Banksian Medal for a good group of Odontoglossums, including some fine forms of O. × Wilckeanum and O. crispum, a well-spotted form of O. × Ruckerianum, &c. An Award of Merit was given to a plant called O. × spectabile, apparently a form of O. × excellens.

Mr. J. W. Moore, Eldon Nursery, Bradford, sent the rare Dendrobium Boxallii.

Mr. H. A. Tracey, Amyand Park Road, Twickenham, sent a good Cymbidium Lowianum.

There was again a fine show of Orchids at the Drill Hall on April 21st, though the exhibits were not as numerous as at the two or three previous meetings.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), showed a very interesting group of rare things, to which a Silver Banksian Medal was given. It included the pretty little Dendrobium cymbidioides, D. crepidatum, Masdevallia caudata, M. Arminii, a fine clump of Polystachya Ottoniana with over a hundred flowers, Eria aëridostachya, the handsome Cochlioda Noetzliana, Maxillaria præstans, a dark form of Odontoglossum triumphans, and Cypripedium × Charles Richman. Special awards were given to the following: Fine plants of Dendrobium capillipes and Cymbidium tigrinum, each a Cultured Commendation; Sarcochilus Hartmanni and Epidendrum arachnoglossum, each a Botanical Certificate.

Welbore S. Ellis, Esq., Hazelbourne, Dorking (gr. Mr. Masterton), received a Silver Banksian Medal for a good group of Odontoglossums, including varieties of O. crispum, the pretty O. × Andersonianum Hazel-

bourne var. (figured at p. 305 of our second volume), a fine O. Pescatorei with much branched raceme, a very dark form of O. triumphans, &c. The group also contained a very good form of Dendrobium Hildebrandii.

H. T. Pitt, Esq., Rosslyn, Stanford Hill (gr. Mr. Abbott) received a Silver Banksian Medal for an effective group, including Lælia cinnabarina, Miltonia Phalænopsis and M. vexillaria, Epidendrum Wallisii, a series of good Odontoglossums, and other showy Orchids. Vanda Parishii Marriottiana received an Award of Merit.

R. Brannan White, Esq., Addiewell, Carluke, N.B. (gr. Mr. Roberts), also received a Silver Banksian Medal for a fine series of forms of Odontoglossum crispum and O. × Andersonianum. The three following each received an Award of Merit: O. crispum Addiewell var., a heavily blotched form allied to O. c. guttatum; O. Andersonianum candidum, a form with milk-white ground and spots approaching those of O. crispum in shape; and O. × Andersonianum Addiewell var., a handsome form with cream-white ground covered all over with small red-brown spots.

G. W. Law-Schofield, Esq., New Hall Hey, Rawtenstall, received an Award of Merit for Cypripedium × Schofieldianum bellatulum ? × hirsutissimum ♂, a very handsome form most approaching C. bellatulum, the ground colour cream-white, the dorsal sepal with a green centre and some fine radiating purple-dotted lines, the petals uniformly spotted with purple, and the lip rose-purple.

M. C. Cooke, Esq., staged a good group, including some good Odontoglossums and other showy Orchids, the centre being occupied by a fine plant of Cymbidium Lowianum. The group received a Vote of Thanks.

F. W. Moore, Esq., Royal Botanic Garden, Glasnevin, sent Dendrobium barbatulum and D. carniferum, the latter receiving a Botanical Certificate.

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whitton), showed a good form of Cattleya Mossiæ.

Mrs. Briggs, Bay Bank House, Ormskirk, sent a good form of Dendrobium Devonianum.

F. M. Burton, Esq., Highfield, Gainsborough, sent Cypripedium × highfieldense, said to be from C. Lawrenceanum ? and C. Druryi ♂.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), exhibited the handsome Odontoglossum × Andersonianum Rosefield var., and O. × hebraicum.

W. E. Ledger, Esq., Wilton Road, Wimbledon, showed the pretty little Australian Dendrobium linguæforme.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), sent a fine form of Odontoglossum crispum, a very dark O. Hallianum, and two good forms of O. × excellens.

Messrs. James Veitch and Sons, Chelsea, exhibited a very fine group, to which a Silver Flora Medal was given. It contained some fine Cattleya Lawrenceana and C. Schrœderæ, Lælia Boothiana, L. purpurata and L. × Latona, Lælio-cattleya × Pallas, the pretty Disa × langleyensis Cirrhopetalum picturatum, Cymbidium × eburneo-Lowianum, Dendrobium veratrifolium, Maxillaria Sanderiana, Selenipedium caudatum, Cypripedium × Druryi-Hookeræ and others; Odontoglossums, Oncidiums, &c. The following received special awards:—Epidendrum × Endresio-Wallisii superbum, First-class Certificate; Dendrobium × Wiganiæ, Award of Merit; Cattleya Schrœderæ eximia, a striking dark rose-coloured form with some orange in the centre, Award of Merit: and Angræcum metallicum, a Botanical Certificate.

Messrs. Hugh Low & Co., Upper Clapton, staged a good group, containing Odontoglossum × stellimicans, various forms of O. luteopurpureum and other Odontoglossums, some good Cattleya Schilleriana, C. Lawrenceana and C. Mossiæ, Lælia purpurata, Oncidium phymatochilum, Dendrobium nobile nobilius and D. Phalænopsis, Cypripedium × Masoni, &c. **A Vote of Thanks was given.**

Mr. R. Gulzow, Bexley Heath, exhibited an effective group of Lælia purpurata, Oncidium Marshallianum, Cattleya intermedia, and C. Trianæ, **and also received a Vote of Thanks.**

Messrs. F. Sander & Co., St. Albans, also received a Vote of Thanks for a fine group, including Brassia Lewisii, Cœlogyne Dayana, Spathoglottis Lobbii, Dendrobium O'Brienianum striatum, Epidendrum Wallisii, some fine forms of Oncidium varicosum, Odontoglossums crispum and Pescatorei, Lycaste Skinneri, Miltonia vexillaria, Cypripedium hirsutissimum, Cattleya citrina, some good C. Mossiæ and C. Schrœderæ, &c.

Mr. J. Douglas, Great Bookham, Surrey, sent a fine Phaius × Cooksoni.

CORRESPONDENCE, &c.

H. W., Manchester. A good form of Dendrobium densiflorum

T. S. A small form of Odontoglossum × Coradinei, probably undeveloped.

C. Stoldt. Miltonia flavescens and a good typical Cattleya Trianæ. Your letter was incorrectly addressed, and only reached us after much trouble. See notice on page 2 of cover.

W. H. L., Balmedie. O. triumphans with rather long segments. Others noted elsewhere.

Photographs received, with thanks, J. S. M.

We have received the Catalogue of Costa Rican Orchids published by Mr. Richard Pfau, of San Jose, Costa Rica. It contains some interesting information about these plants and the climate of the district. We note a plant called Cattleya Dowiana Rosita, "an interesting supposed natural hybrid between Dowiana and Bowringiana or Skinneri autumnalis," which we should like to know more about, as the description suggests the form **of C. Dowiana with rosy marked petals.**

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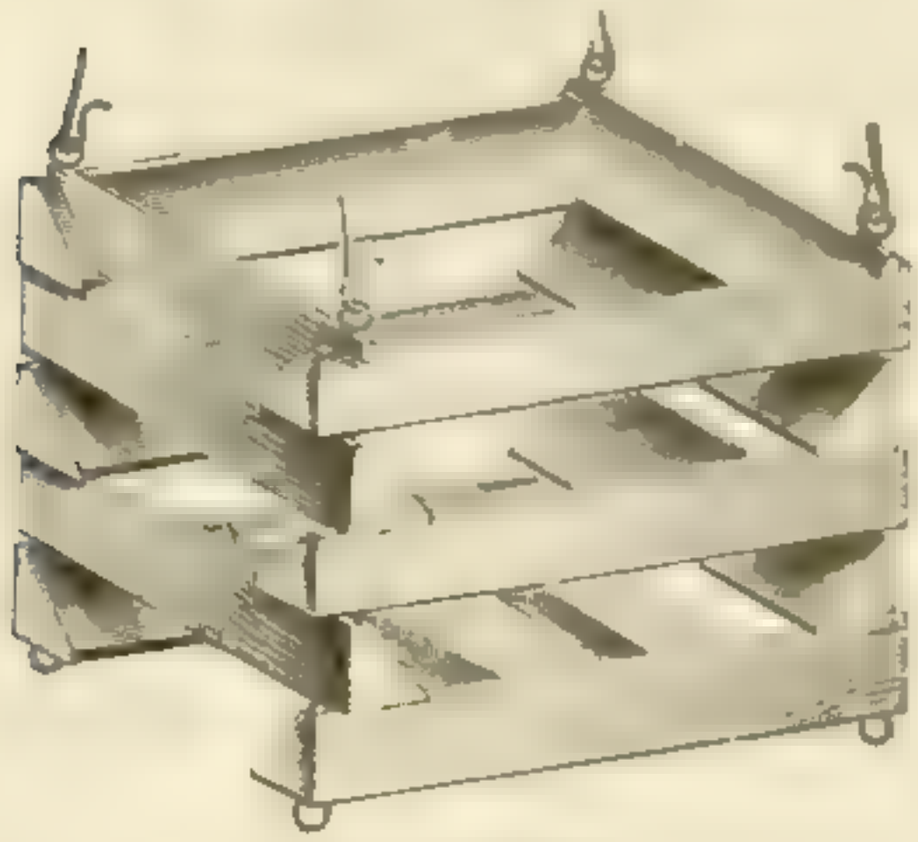

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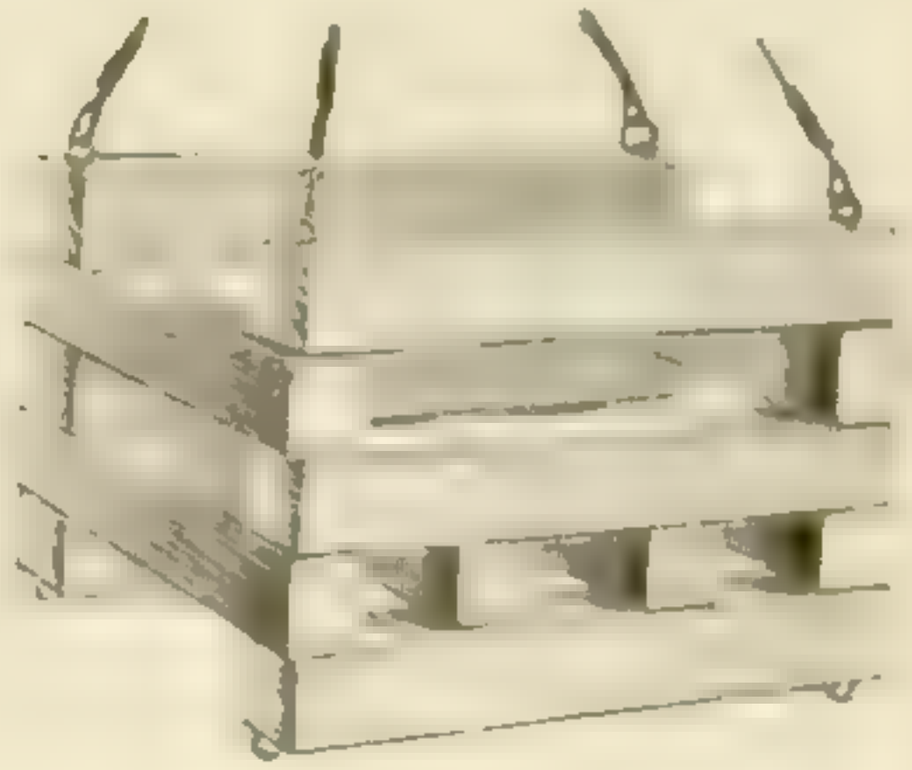

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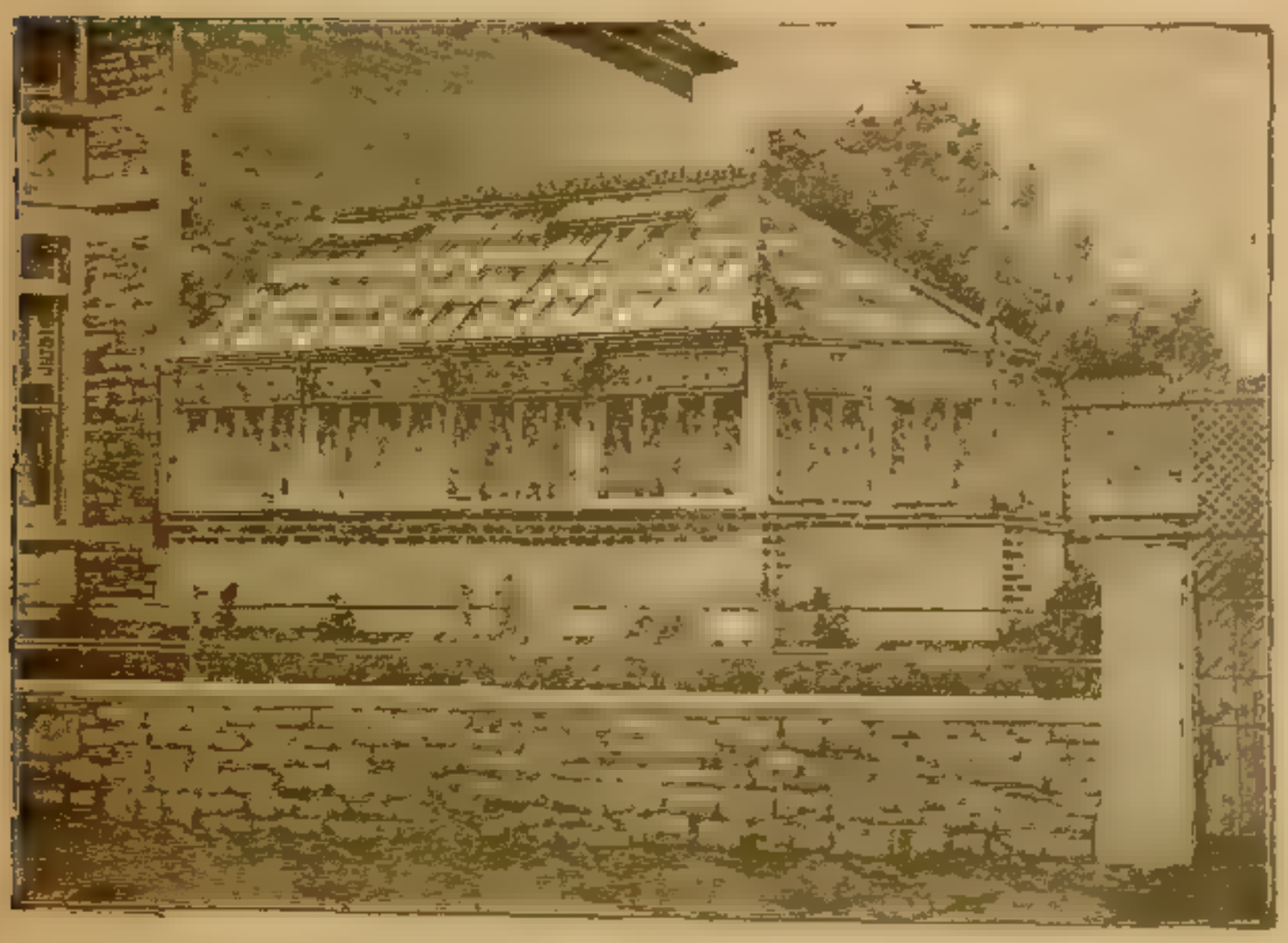

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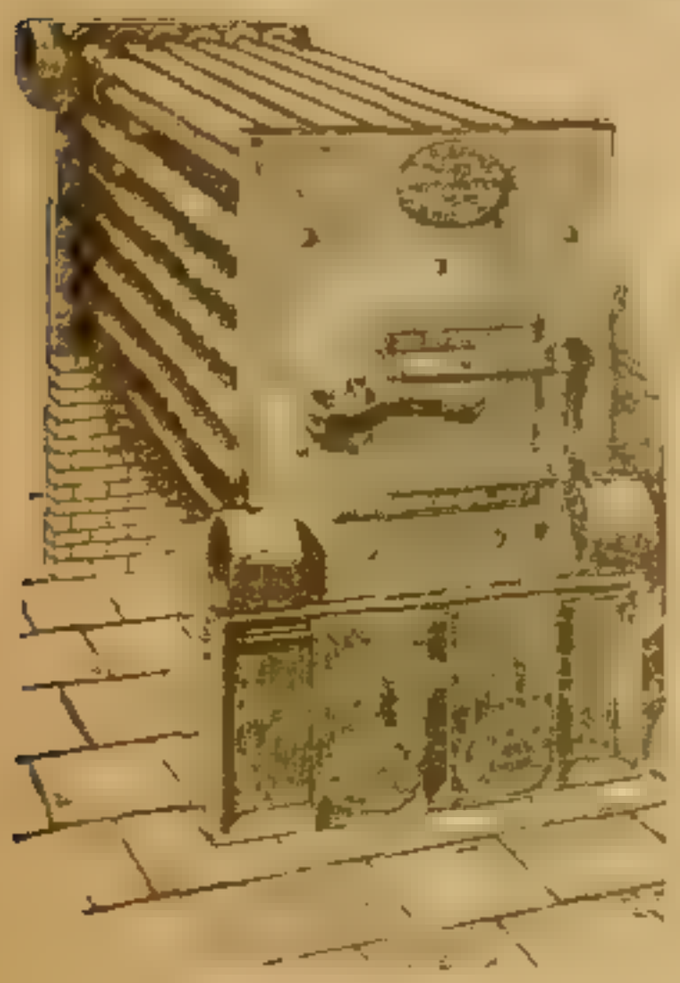

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. IV.] *JUNE*, 1896. [No. 42.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James' Street, Westminster, during June, on the 9th and 23rd respectively, when the Orchid Committee will meet at the usual hour of 12 o'clock noon.

A flower of the beautiful Odontoglossum crispum "Princess," to which an Award of Merit was given by the Royal Horticultural Society on May 5th last, has been sent from the collection of W. Vanner, Esq., Camden Wood, Chislehurst. The segments are very broad, a little stained with lilac, and the sepals have one large and several small vinous purple blotches above the middle, which are absent on the toothed petals.

Two flowers of a seedling Cypripedium, cut from different plants, have been sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury. There is a little doubt about the parentage, though it is believed to be C. barbatum giganteum crossed with the pollen of C. Curtisii, and the flowers are just what would be expected from such a cross. Thus they are the reverse cross of C. × Kerchoveanum, and should bear the same name. The dorsal sepal is broad, and much like barbatum, while the sepals are spotted except at base and apex, and the lip rather large, showing the influence of the other parent. Mr. Wrigley states that one has the leaves much like C. Curtisii, and the other almost identical with barbatum.

An unspotted form of Odontoglossum × Andersonianum comes from the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks. The ground colour is pale straw yellow, deeper on the lip, and the sepals much suffused with light purple, as in Ruckerianum, while a trace of the same is also seen in the petals.

An inflorescence of Epidendrum Stamfordianum is sent from the collection of W. J. Woodhead, Esq., Elton, Maghull, near Liverpool, from a plant collected by Mr. Woodhead during a trip through the forests and swamps of South Mexico. It is a very attractive thing, and a plant of this species which was exhibited at the Temple Show a year ago will long be remembered.

An esteemed correspondent writes that he is investigating the habits of the Cattleya Fly on two plants of Cattleya labiata in a glass case, and hopes before long to be able to send us the results, which we anticipate will be both instructive and useful.

Two flowers from the collection of D. B. Rappart, Esq., Liscard, Cheshire, are very near Lælia purpurata Russelliana, and one has the petals unusually flat for this species.

A spike each of Cypripedium Chamberlainianum and C. Victoria-Mariæ have been sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, to show the difference between them. The latter is invariably more robust, and without the brown markings on the dorsal sepal and petals, and the spotting on the lip, but the two species are very closely allied.

Cypripedium exul aureum is an unusually brilliant variety from the collection of W. M. Appleton, Esq., of Weston-super-Mare, in which the petals and lip are bright deep yellow in colour. The ground colour of the dorsal sepal is also more yellow than usual. It is typical in other respects.

A most beautiful flower of Cattleya Mossiæ Reineckeana has been sent from the collection of J. Wilson Potter, Esq., of Croydon, quite perfect in shape and of the purest white, with the disc of the lip elegantly veined with rosy crimson in front and with deep yellow behind. With it is a good typical form of Lælia purpurata.

A flower of the beautiful Odontoglossum × Humeanum excellens and O. × Ruckerianum Masoni, to each of which an Award of Merit was given on March 24th last, have been sent from the collection of H. Mason, Esq., of Shipley, Yorks, through Messrs. Charlesworth & Co. They are noted at page 125. The latter is both richly coloured and very beautifully spotted.

An exceptionally fine form of Cattleya citrina has been sent from the collection of J. T. Bennett-Poë, Esq., Holmwood, Cheshunt. The seg-

ments are unusually short and rounded, the petals measuring 1½ inches across, by 2¼ inches long, and the front lobe of the lip nearly as broad as the petals. The flowers are more open than in the type, and there is very little orange on the disc of the lip. A photograph shows the plant bearing five flowers.

A very large flower of Dendrobium nobile comes from the collection of F. H. Moore, Esq., of Liverpool. It resembles a well-developed D. nobile nobilius in shape, but is a little lighter in colour. The plants of this type are known as D. nobile giganteum.

A very beautiful form of Cattleya Mossiæ from the collection of James Davidson, Esq., Summerville, Dumfries, has the orange-yellow in the throat and the markings in front very well developed, and is equally good in other respects.

MEIRACYLLIUM GEMMÆ.

THIS very interesting little plant has re-appeared in the establishment of Messrs. F. Sander & Co., of St. Albans. It was originally described by Reichenbach in 1869 as "a little vegetable gem, with a creeping rhizome, erect leaves, like those of a Sophronitis cernua, and beautifully amethyst-coloured flowers standing singly. It came from Mexico, and has lately flowered in the Saundersian collection" (*Gard. Chron.*, 1869, p. 988). The resemblance to Sophronitis cernua is remarkable; indeed, until I examined the pollen I took it for a new species of that genus, but the flowers are usually borne in racemes, in some cases with as many as five each. A poor figure is given in *Xenia Orchidacea*, III., p. 13, t. 209, figs. 1 and 2. Two other species of this curious little genus are known, both being natives of Central America. Its affinity has been the subject of some dispute. Reichenbach, who had not then seen the pollen, originally described it as a genus of Vandeæ with no affinities, and the habit of Sophronitis. Bentham afterwards transferred it Pleurothalleæ, placing it next to Octomeria, and Pfitzer again removed it to Læliæ, placing it next to Sophronitis on account of its habit—a position, however, which is certainly erroneous. Bentham placed it in Pleurothalleæ with some hesitation, remarking that it agreed in habit, but the pollen was more like Eria. The remark, however, would apply just as well to Octomeria, and I believe this is the real position of the genus. The eight pollen masses are attached in a bundle to a common caudicle, but not to a distinct stipes and gland, of rostellar origin, as in the Vandeæ, so that both habit and structure place the plant near Octomeria. The plant was awarded a Botanical Certificate at the recent Temple Show.

R. A. R.

DENDROBIUM BEETLE.

FROM the article in your last number it would appear that though the larvæ of this insect are only too well known, the perfect insect is "wanted" by English naturalists. I therefore enclose one which I caught yesterday hiding under the rhizome of Lælia tenebrosa. This plant was growing close to a Dendrobium Phalænopsis Schrœderianum, whose stem (enclosed) showed the hole from which it had issued, and whose leaves had shewn on the previous day that on these it had made its first meal. I enclose a leaf showing its peculiar method of feeding. This was done during the first night after its escape from the chrysalis. The next night it paid attention to the Lælia, eating the leaf in the same way as that of the Dendrobe, and also nibbling the points off two buds, quite spoiling them, to say nothing of devouring two roots, each about half-an-inch long. I think, therefore, I may truly say that this beetle is, though beautiful, beastly, and as much a pest in the perfect state as in that of larvadom. L. C. R. THRING.

[The Beetle sent is a large and very different insect to that sent by Mr. Wrigley, but is not yet identified.—ED.]

Since I sent you the beetle-infested pseudobulb of Dendrobium Phalænopsis (p. 136), my gardener has found many more plants attacked by this insect. Most of the infested pseudobulbs were at once burned, but several were handed over to my sister's gardener for observation and experiment, while others were placed under a bell-glass by my man, with similar objects in view.

It has been proved that the perfect beetle issues from its bore-hole during the hottest part of the day, and flies about with the greatest rapidity and ease, settling on any pseudobulb which it may care to visit. Towards evening the insects all disappear, either into their old holes or into new ones bored into fresh pseudobulbs, or into fresh portions of an infested one. I have proved that these beetles fly about my Dendrobium house, because one was found walking up an unattached pseudobulb, and my attention was immediately called to it. When I first saw it, boring had just commenced, and went on at a very rapid rate, the borings being thrown out by the hind legs of the beetle as work went on. I carefully watched the insect for **exactly half-an-hour,** when it was lost to sight, having buried itself in the pseudobulb. From careful observations I find that the beetle usually bores right across the pseudobulb, until the outer skin is reached, which it never pierces, but then begins to excavate a chamber in which to produce its larvæ, and in the end I presume it dies there, when its task is completed.

From these imperfect observations and experiments it is plain that this beetle is a very serious pest when once it has established itself in any Orchid house, for it breeds so rapidly, and spreads so much, that in a very short time a collection of Dendrobes may be seriously damaged or destroyed.

No remedial measures have the slightest effect, for a pseudobulb once bored must decay and die in the end. By experiments it has been proved that the beetle does not confine its attacks to Dendrobium Phalænopsis, for I have had to burn three plants of D. Devonianum which were full of it, and have also proved that it will bore into D. nobile and thyrsiflorum, and live in their pseudobulbs.

I am doing my level best to stamp out this pest, but am very doubtful whether I shall succeed or not.

O. O. WRIGLEY.

Bridge Hall, Bury.

NOMENCLATURE OF ORCHIDS.

THE constantly increasing number of hybrid Orchids and the consequent multiplication of names tends to make the nomenclature question a most important one to cultivators of Orchids. It was therefore with considerable interest that I read the very pertinent observations of the Right Hon. Joseph Chamberlain on this subject in the May *Review* (p. 135), and I think that the thanks of all Orchid lovers are due to him for his timely interposition on behalf of law and order. In the course of some trenchant and pointed remarks Mr. Chamberlain lays the responsibility of much of the present confusion in nomenclature upon the Orchid Committee of the Royal Horticultural Society, and to some extent I fear his indictment is but too true.

Mr. Chamberlain proceeds to suggest the desirability of distinguishing the reverse crosses of hybrids by a distinctive name, but I venture to think that if that course were followed, instead of bringing "order out of chaos," it would but serve to make "confusion worse confounded." Mr. Chamberlain truly says that "there are very great and marked differences in the reverse crosses of different Orchids," and appears to assume from this that if a reverse cross happens to produce a distinct form, it is because it is a reverse cross, and therefore, as such, should have a distinctive name. This rather reminds one of the old fallacy, "*post hoc ergo propter hoc*," for it has been demonstrated many times, by the experiments of careful observers, that there is no intrinsic difference in reverse crosses. (See *Kerner, Nat. Hist. Pl.*, Eng. Ed. II., p. 557.) I submit, therefore, that distinctive specific names for reverse crosses would not only be superfluous, but in many cases would be positively misleading. If a distinct form appears, whether in a reverse cross or not, by all means give it a varietal name to distinguish it, but pray let it retain the one specific name of the hybrid. On the whole, I think no better system of nomenclature could be adopted than that consistently followed in the *Orchid Review*, which is based upon the laws laid down by the Paris Botanical Congress of 1867, and upon the recommenda-

tions of the Nomenclature Committee of the Royal Horticultural Society. It is a simple system, at once practical and scientific, and would, I feel sure, meet every case and supply every need. As an illustration, I beg leave to quote here an abstract of the four rules laid down for the naming of hybrids and other crosses. (For full text see *Orch. Rev.*, I., pp. 340-343.)

(1) "The sign of hybridity '×' should be placed between the generic and specific names."

(2) "Hybrids between species should receive a Latin specific name. . . . . Hybrids raised from the same two parents, *whether of inverted parentage or otherwise*, should be considered forms of one, and, if necessary, may be distinguished by the addition of a varietal name."

(3) "Hybrids between genera should receive a generic name, formed by combining the names of the parent genera."

(4) "Secondary hybrids, *i.e.*, those in which one or both parents are themselves of hybrid origin, should receive suitable vernacular or informal names, like florists' flowers."

If these few simple rules had been followed Mr. Chamberlain would have had no need to complain of such anomalies as Dendrobium × burfordiense and D. × Euryclea (reverse crosses of D. × dulce and D. × micans respectively). Of the others complained of, "Clio," "Hebe," "Dido," "Rainbow," "Luna," "Thalia," and "Rubens," would seem to be correctly named, as all of them are cross-breds or "secondary hybrids," and so come under Rule 4, each distinct form bearing a popular name, like roses, chrysanthemums, and other florists' flowers.

I quite agree with Mr. Chamberlain in protesting against the looseness allowed in naming varieties of natural species. Specific names are not admitted unless they have been properly examined and described, and varietal names should not be allowed unless carefully certified as distinct by some expert and independent authority, such as the Orchid Committee of the R.H.S. I sincerely hope that the time is now close at hand when this much vexed question of nomenclature will be settled on a sound basis once and for all, and I trust that all Orchid cultivators will faithfully, loyally, and consistently abide by the decision of the authorities.

CHARLES C. HURST.

Burbage Nurseries, Nr. Hinckley.

[The Orchid Committee can hardly be expected to prevent the use of unauthorised names, but on various occasions they have recognised them by giving awards to plants not named in accordance with the Society's own regulations, and this certainly ought not to have occurred. We have frequently omitted unauthorised names from our reports, but it is difficult to exclude them entirely, unless the Committee decline to recognise them.—ED.]

REGARDING CERTAIN SUPPOSED HYBRID ORCHIDS.

It is one of the misfortunes of botanical writers that, in consequence of no authoritative contradiction, the same errors are repeated by various authors, passing on from one publication to another. I was much struck with this when taking up Mr. Hansen's book, *The Orchid Hybrids*, the other day. The following plants should certainly be erased as possible hybrids, as they are nothing of the kind :—

Dendrobium Donnesiæ. It is well known that D. formosum and D. infundibulum do not grow together, so that a natural hybrid between them is impossible. Certain botanists consider D. infundibulum to be a mountain form of D. formosum. It is probable that D. Donnesiæ is another form.

Orchids of the same species vary considerably according to the varying influences under which they grow. The form and shape of the bulbs differ, as do also the flowers. D. formosum is certainly an instance of this. The common form found in quantity at Moulmein and along the coast to Tavoy has the bulbs much swollen in the middle ; the flowers also are distinguished by their broad and lax petals. The form of D. formosum found in the Andamans and adjoining islands called D. formosum Berkeleyi has much thinner stems of even thickness throughout. The flowers are also quite different, being more funnel-shaped, and not having lax petals. It is certainly near to D. infundibulum, and it is highly probable that D. Donnesiæ is a similar island form. We have quite enough difficulties regarding hybrids without the repetition of errors made without sufficient information.

D. Wattii is another very doubtful hybrid.

The late Professor Reichenbach was of opinion that D. Findlayanum was a natural hybrid between D. Aphrodite and D. gratiosissimum, but this is absurd, as the plants grow widely apart. D. Aphrodite is essentially a hot Orchid. I invariably found this plant growing on the top of immensely high trees in the low hot plains of Burmah in company with D. dixanthum and D. albosanguineum, so that a natural hybrid might be expected between these, but up to this time none has ever turned up.

D. Findlayanum is found growing in company with D. Jamesianum and D. gratiosissimum, principally on rocky precipices under entirely different conditions as regards temperature, and is a plant never found in the low country. Thus D. Findlayanum being a natural hybrid is impossible. Perhaps the botanists may eventually decide on considering it a mountain form of D. Aphrodite, in the same way as they consider D. infundibulum and D. Jamesianum as mountain forms of D. formosum, but certainly let D. Findlayanum be in future excluded as a possible hybrid.

Among the Phalænopses some of Mr. Hansen's supposed hybrids are still more impossible. Of course, to anyone knowing the localities any

such hybrids are absurd. Over a thousand miles separate Phalænopsis tetraspis from P. Lueddemanniana, and P. speciosa is separated by 200 miles from its nearest allied species. Again, how nearly allied to these plants are Phalænopsis sumatrana and P. Mariæ, but they also are confined to the special islands in which they grow.

The evident disadvantages of the mistakes above commented on being copied from book to book must be my excuse for troubling you with these notes. It appears to me to be a mistake to repeat erroneous surmises of the late Professor Reichenbach which never had any reliable basis. Mr. Hansen's book seems to have been compiled with great care, and in making these remarks I in no way intend to disparage it. The errors I point out are not his, but are errors copied from previous works.

EMERIC S. BERKELEY.

[We think there was no excuse for including Dendrobium Findlayanum in the list of hybrids, as the suggestion thrown out by Reichenbach in 1876 (*Xen. Orch.*, II., p. 210) has not been repeated –at all events in any important work—and the author himself omitted all reference to it in the following year (*Gard. Chron.*, 1877, vii., p. 334). At the present day the suggestion is absurd, and it is certainly not a variety of D. Aphrodite. D. Donnesiæ is only a form of D. infundibulum, and shows no trace of the influence of D. formosum, as we should have pointed out before had we happened to have seen it. We consider D. formosum to be specifically distinct from D. infundibulum, but we cannot say as much for D. Jamesianum. There does not appear to be any reason for supposing that D. Wattii is a natural hybrid, and the remark about Phalænopsis speciosa is very well described by General Berkeley as absurd. There are a number of other plants wrongly included by Mr. Hansen as natural hybrids, even after the errors have been pointed out, of which Cattleya velutina may be taken as an example, and we fully agree in thinking it a mistake to repeat these mistakes. Such plants might have been included in a list headed "doubtful or erroneous," but are out of place elsewhere.—ED.]

CATTLEYA FLY.

I HAVE watched with interest the observations in your journal since January regarding this pest, and agree with you and Mr. Millington that it is the *black* fly, and not Mr. Hamilton's (p. 87) "*blue and yellow markings.*"

Early last year I bought established plants of Cattleya from a nurseryman, and they literally swarmed with it in all stages; but, being a novice, it was some time before I discovered it. From these many of my old stock got it, including Lælias. After twelve months' careful watching and cutting I got rid of it, leaving me many dilapidated plants.

This year I bought a few more "fine selected" plants, and within a month I found I had replenished my stock of fine "black" and grubs in plenty. Needless to say, the knife went to work, and I think I have saved my bacon. Wherever there is a hole in an old bulb, off with it, and if you split it up, the chances are you'll find the fly or eggs. "XL." will kill them if they *get out*, but it won't get at the grubs: it is only when full-grown that the fly eats its way out and begins the mischief of laying its eggs elsewhere. The curious thing is, one cannot detect *how* the grub gets into the new growth—at least, I have failed to do so. [Eggs laid inside.—Ed.]

"WELLINGTON."

A HYBRIDIST'S NOTES.

MR. COOKSON'S notes on the time of ripening seed at page 112 of the April number are valuable, especially since his experience differs from mine in a number of points. The time required here is doubtless shortened by the intense sunlight, this latitude being the same as that of central Egypt, and for at least half the year the sun is so powerful that it is impossible to handle metal objects lying in full sunlight without gloves, their temperature rising to about 160° F., even when the shade temperature near by is quite comfortable. As to the warning that seeds are not to be counted good unless they produce plants, I have rarely found seeds that look really plump and well-developed under the microscope to fail to pass through the earlier stages of germination, increasing in size five or six-fold and developing plenty of chlorophyll, which would certainly show them to be alive. The exceptions have almost all been seeds with one parent ranked as "cool." These swell up, but fail to take on a lively green colour, and after some **months usually die without further growth.**

I have raised healthy plants from half-a-dozen Lælia and Cattleya crosses which were but seven and eight months in ripening seed, and in one case, C. amethystoglossa crossed with L. flava and L. harpophylla (on the same flower), the pod ripened in $4\frac{3}{4}$ months, and within six weeks of planting the seed I had one plant with a leaf three-eighths of an inch long, besides innumerable smaller plants just ready to push the leaf. On the other hand some crosses have lingered as long in the seed-pod as any **recorded in England.**

The Editor's suggestion that several flowers on the same plant should be crossed at the same time with different pollen, and the time recorded, has already been carried into effect, with the following results:—In October, 1894, I had three flowers on the same spike of Cattleya Warscewiczii, and crossed one with pollen of C. velutina; another with L. Perrinii, C. Bow-

ringiana, C. Dormaniana, and C. superba together; and the third with C. Trianæ and C. Percivaliana. The first pod opened at 10 months, the second at eleven, and the third has just opened at 17¾ months. The pods all contained an abundance of viable seeds, many of which are still alive, and those of the second are quite promising in appearance. In November, 1894, with four flowers on the same plant of C. Trianæ virginalis, I crossed one with L. anceps alba, ripe in 9½ months: one with C. Walkeriana, ripe in 11½ months; one with C. labiata, ripe in 13¼; and one with L. crispilabia, not yet ripe at 17 months: all of which seems to indicate a decided influence on the part of the pollen parent.

To simplify the matter of records I use circular tags—cut from letter paper by a gun-wad punch—each attached to the pedicel of the hybridized flower by a loop of thread, and bearing the names, in pencil, of both parents and the date. In the note book the completed record would read as in the following example:—

1895.

May 15. C. Mossiæ × L. grandis (¾—5 da.) 1. !

Ripe March 10, 1896, 10 months.

The amount of pollen used is given by the fraction in the parentheses (the quantity yielded by one flower being taken as unity), the "5 da." indicates that the pollen had been kept five days before using, and the "1" outside the parentheses, that only one flower was thus crossed. Whenever the pod dies instead of ripening, the tag is removed, and if any considerable time has elapsed since pollination, the date of death is entered on its back, and at any convenient time thereafter this date is entered in the note book, a naught (0) takes the place of the exclamation point at the end of line, and the tag is destroyed. In a rough way the time that elapses before the death of the pod gives a hint as to the amount of affinity between the species crossed, though single cases will often be misleading. My note book already contains over 1,500 entries of attempted crosses made during the last three years, and 230 apparently good pods have been gathered so far.

When the pod ripens it is cut off and put in a paper bag about four by seven inches, name of cross and dates entered at the top, and dates and manner of planting entered below. These bags, when empty, are filed in alphabetical order, according to name of female parent, like library catalogue cards, and the further progress of the seedlings noted on them as may seem desirable, so that the whole history of every pod is on file and may be referred to at any moment.

My rule is to make all the crosses possible with my material, that is, all in which there is a reasonable chance of getting good seed, without regard to the fact that many crosses would probably be worthless from a commercial or even horticultural point of view. I have made also a good

many of what Charles Darwin used to call "fool's experiments," as to different materials on which to grow the seeds, and it may surprise some growers to hear how very regardless of precedent some of my Cattleya hybrids have been, since I have raised them successfully to the leaf and root stage not only on fibrous peat and wood and earthenware, but an occasional plant has grown on corduroy and Canton flannel and linen towelling, on bibulous paper, and even on woollen fabrics. I grew more than a hundred fine little plants of C. intermedia × Harrisoniana to the leaf stage on a small piece of woollen bed blanket, happening to get the conditions of moisture, &c., just right for them. On these fabrics growth is usually much slower than under more natural conditions, but they escape many enemies, both insects and moulds, that find congenial quarters in fibrous peat and other composts, and destroy the great majority of seeds while still in the thalloid stage.

In my former notes in the February issue the sentence above the tabulations (at page 42) is printed so as to contradict the preceding correct statement, that the given average time of ripening seed is that of all my crosses on the given species—not the normal time for uncrossed pods, which statement should be cancelled. The sign " - " is equivalent to "and," indicating that more than one kind of pollen was used on the same flower.

THEODORE L. MEAD.

Oviedo, Florida, U.S.A.,
May 4th, 1896.

[The mistake alluded to in the last paragraph arose through a little alteration made by us in the arrangement of the tabulated part and the preceding explanatory paragraph. The fact is the number of months following the parents indicated represents the average time of ripening of all crosses on those species, and the table therefore represents the amount of variability in the periods of ripening under varying circumstances, and is not adduced in support of the remark that the time of ripening of any crossed capsule seemed to tend towards a mean between the normal ripening time of the two parents, as we supposed. Some experiments with uncrossed capsules would be very interesting, and possibly throw light on this question. The cases now adduced are remarkable, and we should particularly like to know the result of the multiple crosses mentioned when they flower. We shall recur to the question. Meantime, we hope others will send us their experiences.—ED.]

DIES ORCHIDIANÆ.

I HAVE frequently called attention to the Nomenclature question, and, consequently, I read Mr. Chamberlain's remarks in your last issue (page 133) with considerable interest, especially as a little discussion may clear up some of the doubtful points involved. Mr. Chamberlain very well points out that the present confusion is almost a scandal, and threatens to become intolerable as time goes on, for which he partly blames the Orchid Committee of the Royal Horticultural Society, who are supposed to have certain rules for their guidance, but only put them in practice occasionally. One point which he brings prominently forward is the naming of reverse crosses, and he thinks that the rule that a reverse cross is not entitled to a distinctive name is open to criticism, as these often show great and marked differences. But then, this is frequently the case with seedlings out of the same pod, while in many cases reverse crosses do *not* present any appreciable difference, so that the rule breaks down completely. Selenipedium × Sedeni, as raised from the reversed cross, is absolutely indistinguishable, and numerous other cases could be pointed out. I therefore think that the Orchid Committee are right in refusing reverse crosses a separate name, and even a varietal name I would only allow when there was some distinctive character by which such a plant could be distinguished, just as in the case of different seedlings out of the same pod. Mr. Chamberlain is undoubtedly right in his contention that some authentic quality should be attached to every distinctive name, and this would not be the case if every reverse cross were to receive a distinct name. The two will not run together, and now that the Orchid Committee have recognised the principle I hope they will carry it out consistently in future. There is plenty of room for improvement.

Mr. Chamberlain also remarks that the latitude allowed to what are called "varieties" is even worse than the loose treatment of hybrids. Every nurseryman and every amateur is permitted at his own sweet will to affix a distinctive name to any plant that strikes his fancy, and as there is no rule and no authority, so there is no limit to the abuse of the practice. With this I thoroughly agree. Hardly a meeting of the Royal Horticultural Society passes without a number of new names appearing, many of which fail to serve any useful purpose. And what is the result? Some one has a Cattleya Mossiæ, let us say, that is not quite the same as others he has, so it is labelled Mr. Blank's variety, or Blank Lodge variety. Perhaps it is good, and receives an Award, but whether or no, it catches the reporter's eye and is duly recorded. Some, it is true, are ignored—possibly it is not

thought good enough to be noticed, or it may be recognised as something else, but a good many do get recorded in a useless kind of way, for even when they really deserve a varietal name their particular character is not recorded, and when afterwards some one wants to find out what Mr. Blank's variety is like he cannot ascertain, and perhaps gives it another name. And even if its character is recorded the result is much the same under the present go-as-you-please policy, for is it a notorious fact that many varieties have several different names, and some species of Orchids have more named varieties than there are distinct varieties to name. And still they come.

The remedy suggested is that the Orchid Committee should establish a "Hall Mark" for valuable Orchids that would be recognised by cultivators. But it seems to me that the Certificates already granted by the Society fulfil this purpose to a great extent, and would do so entirely if the rules supposed to be in force were always carried into effect. And even if the new idea were carried out, it would leave things much as they are, unless a new rule were made to the effect that new names should only be given by competent experts. This would probably be the most effectual check to the present growing evil, and would ensure an approach to an orderly and scientific nomenclature.

The *Gardeners' Chronicle* for May 16th (p. 614) alludes to Mr. Chamberlain's article, and I agree with a good deal that is said. "It was hoped," it remarks, "that when the Nomenclature Committee issued its code that horticulturists also would adopt the rules, and that there would be less reason for protests such as Mr. Chamberlain now makes. Unfortunately, things go on as before, if not worse. The Orchid Committee is blamed for this state of things, and to some extent it is doubtless responsible. It must, however, be borne in mind that the ordinary meetings of the Committee afford no more fitting opportunities for the discussion of intricate points of affinity or nomenclature than the House of Commons does for the consideration of the racial differences between Boers and Kaffirs, Teutons and Britons, or the limitations, geographic or otherwise, between Venezuela, Guiana, and Brazil. One way out of the difficulty is to appoint a Committee of experts to determine the general points at issue, and arrive at some conclusion, arbitrary or otherwise, on points of detail as they arise. This, as has been stated, has already been done, so far as generalities are concerned; but who pays heed to the enactments? Who is to enforce them? The rules for nomenclature, with one or two exceptions, where commercial bias was allowed to over-ride scientific interests, are very good

as they stand, and if people would only follow them there would not be much to complain of."

As to the kinds of name to be given, the same article observes: "It is, as a rule, not desirable to apply to a plant a name descriptive of its peculiarities, or indicative of its history. . . . A name should be a name and nothing else. It should not be description; still less should it be a detached fragment of history. Nothing but confusion arises from the attempt to blend nomenclature with description, and specially with the history of the plant." Now, I confess this is a strange and startling doctrine, if it means what it really says. What about Vanda cœrulea, and Broughtonia sanguinea? Is not Selenipedium caudatum descriptive? Is Coryanthes leucocorys objectionable because it describes the peculiarities of the species? Does not Phalænopsis sumatrana contain a fragment of history? These are only cases selected at random, and might be multiplied *ad infinitum*, but where does the confusion come in? I have read similar remarks before, or I should be inclined to pass them over. As it is I should much like a few examples of the names which the writer is tilting at, together with some of the ideal names recommended, for I confess that I cannot follow him.

The writer is also strongly of opinion that the Latin system of nomenclature should not be followed in the naming of hybrids, but that the practice of the florists should be adopted. With this I do not agree, and it is not in accord with the recommendations of the Nomenclature Committee above alluded to. On former occasions I have gone pretty fully into this question of the vernacular, and have not time to follow it further at present, so will merely refer the writer to pages 12, 200, and 228 of the last volume of this work, which have some bearing on the question.

My last month's correspondent will doubtless be looking out for some remarks about the "blue Cattleya." I have seen it. It was exhibited by Mr. Smee at the Royal Horticultural Society's meeting on May 5th last. With admirable foresight Mr. Smee had pasted the catalogue description on a piece of cardboard, and exhibited it with the plant. It was a wise percaution, for otherwise I should not have recognised it, and I suspect others would have been in the same predicament. Will some one send me an essay on that "blue Cattleya?"

ARGUS.

DENDROBIUM ARACHNITES.

AT the Royal Horticultural Society's meeting on June 25, 1895, a Botanical Certificate was given to a curious little Dendrobium from the collection of J. Bradshaw, Esq., The Grange, Southgate, under the name of D. inversum, which was recorded in the report of the meeting (*supra*, III., p. 253) as "about two inches high, and bore a two-flowered inflorescence of the size and colour of Lælia cinnabarina, with a few purple lines on the lip." It was again exhibited on May 5th last, when bearing four flowers, but on comparison it proves to be Dendrobium Arachnites, a species described by Reichenbach in 1874. The author remarked :—

"Since the time when Sir William Hooker described his unique Dendrobium amboinense, no such remarkable and extraordinary gorgeous Dendrobe has been discovered. Imagine a dwarf stem three inches high, with shining internodes a little thicker at their upper ends, and then add a flower with linear sepals and petals, nearly two inches long when dried, and a long pandurate lip narrowed towards its obtuse tip. All these organs appear, when dried, whitish yellow, with a deep lilac blotch at the base of the lip. I have only a single flower, not cohering with the stem. To judge, however, from the little scars on the stem, it must be a Eudendrobium. I believe a single plant of it has been found in Burmah by Mr. Boxall, who must have been filled with enthusiasm at the sight, since he dried it! One feels that the Burmese plants incline to the Malayan type, since it is impossible not to think of Renanthera flos-aeris (Arachnanthe moschifera). I was favoured with the flower and two stems by Mr. Low. Of course I can only describe the things as they are, and am unable to say that the stems may not become longer."—Rchb. f. in *Gard. Chron.*, 1874, ii., p. 354.

Except as regards colour, the above description gives a very fair idea of the plant, of which nothing further seems to have been discovered for many years, for Messrs. Veitch in their *Manual* (III., p. 18) state that the only plant they knew of was in the collection of Mr. Lee, at Downside, through whose kindness they were enabled to give a description. A flower preserved at Kew came from the collection of Baron Schröder in June, 1887, which may possibly have been from Mr. Lee's original plant, as the Downside collection was distributed, and only one plant had ever been recorded.

It is a beautiful little plant, allied to D. nutans, Lindl., but remarkable for its very dwarf tufted habit and large brilliantly coloured flowers. It is about two to three inches high, with linear-lanceolate acute leaves, $1\frac{1}{2}$-$2\frac{1}{2}$ inches long, and deciduous before the flowers appear. The latter are borne in fascicles of two or three and are $1\frac{1}{2}$ inches long, deep cinnabar-orange, with red purple veins on the lip. The sepals and petals are linear-lanceolate and subequal, and the lip pandurate-oblong and acute. Mr. Bradshaw

received his plant from Burmah, and more of it may some day appear. Of course the original name must be restored. R. A. R.

CATASETUM MACROCARPUM AND C. BARBATUM.

The female flowers of Catasetum macrocarpum are so rarely seen in cultivation that it may be interesting to record that one has just appeared at Kew on a raceme with three of the other sex. The males are familiar to most orchidists, and the females are depicted at plate 1752 of the *Botanical Register*, but as many people may not be able to refer to that figure, it may be added that the lip is larger and more ovoid, the ovary very much stouter, and the column very short and stout, and without any antennæ. In the present example the petals were almost suffused with dusky brown—as were also the males, which are notoriously variable in colour in different individuals of this species—and the anther was nearly half developed, showing that it was partially in a transition state. A peculiarity of the female flowers, which has been recorded before, is that they reach maturity sooner than the males, and in the present instance the second flower was the female, yet it opened a week in advance of those, above and below it. A plate has been prepared for the *Botanical Magazine*. The history of this very interesting genus and its so-called "sporting," and how the females of four different species were confused under the name of Monachanthus viridis, has already been detailed in the *Review* (*supra*, III., pp. 138-143).

It is also interesting to record that the plant of Catasetum barbatum in the collection of John W. Arkle, Esq., of West Derby, Liverpool, mentioned at page 131 of the last volume, has again produced a raceme of female flowers, six in number. It is perfectly erect, and the flowers are entirely light yellowish green, except for a few minute brown spots on the margins of two of the flowers. The latter are only half the size of the females of C. macrocarpum, which were formerly confounded with it, the sepals, petals, and lips being seven to eight lines long, and the latter six lines broad. The column is shorter than broad, without any trace of either antennæ, rostellum, or anther. Their second appearance on this plant is very interesting, as they are so seldom seen in many other species. The female of this species is the one investigated and figured by Darwin as the female of Catasetum tridentatum, which I have previously shown to be erroneous. There are still many species of which the females are unknown, but it is to be hoped that in course of time they may be discovered.

R. A. ROLFE.

DENDROBIUM DEVONIANUM.

THE annexed illustration is reproduced from a photograph of the beautiful Dendrobium Devonianum, sent by Dr. A. W. Hoisholt, Stockton, California, and shows the peculiar character of this charming plant when well grown. The pseudobulbs are literally wreathed with flowers, some of which had to be omitted. A second photograph sent, shows the entire plant, with the two flowering bulbs suspended about the middle, on account

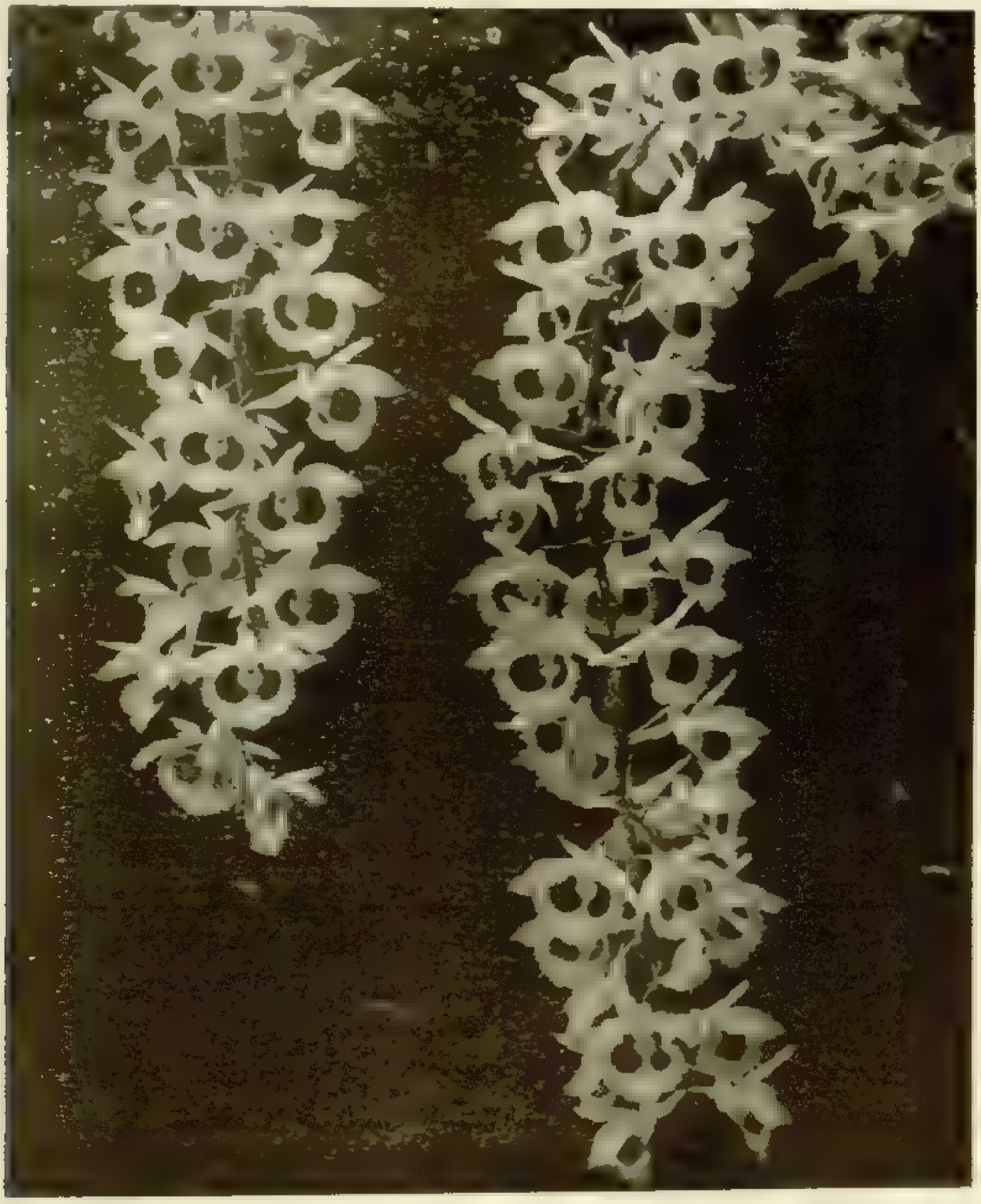

Fig. 9.—DENDROBIUM DEVONIANUM.

of their length. It is difficult to count the flowers, but one was recorded at page 196 of our second volume, in the collection of Dr. Hodgkinson, of Wilmslow, four feet long, and bearing eighty seven flowers, several of the fascicles bearing five each. When thus grown it is a sight to be remembered.

This most beautiful plant was discovered in the Khasia Hills, in 1835,

by Gibson, who had been sent to India by the Duke of Devonshire to collect Orchids. It was found hanging from trees at about 4,500 feet elevation, and being out of flower it was a question whether it was worth collecting. Some flowers, however, appeared on the way home, where it arrived in 1837, and the following spring it flowered well at Chatsworth. being figured in 1840 by Paxton (*Mag. of Bot.*, VII., pp. 169, 170, with plate and woodcut), who dedicated it to the Duke of Devonshire. It was afterwards figured at plate 4429 of the *Botanical Magazine*. Lindley called it the King of Dendrobiums (*Bot. Reg.*, XXX., Misc., p. 48). Singularly enough this author afterwards made it a synonym of D. pulchellum, Roxb. (*Journ. Linn. Soc.*, III., p. 12), and even Reichenbach called it D. pulchellum var. Devonianum (*Walp. Ann.*, VI., p. 284), though in reality it is very distinct. D. pulchellum also includes two very distinct plants, whose history is given at page 173 of our last volume.

D. Devonianum ranges from Bhotan, the Khasia and Naga Hills, Assam, and southwards to Tenasserim. The typical form has white flowers with amethyst purple tips, and two large orange-yellow blotches at the base of the beautifully fringed lip, but two or three varieties are known, including the albino candidulum, and one called rhodoneurum, in which the sepals and petals are veined with purple. They are very beautiful, and succeed under the treatment usually given to other species of the deciduous group.

SACCOLABIUM MINIATUM.

Some curious mistakes have been made in recording the localities of various garden Orchids, and it now appears that the beautiful little Saccolabium miniatum has not escaped this misfortune. It was described nearly half-a-century ago as a native of Java (*Lindl. Bot. Reg.*, 1847, sub t. 26), but no one has been able to confirm the record: and many years later Reichenbach added a variety citrinum, a supposed native of the Philippines (*Gard. Chron.*, 1884, xxi., p. 542), which is equally doubtful. It is interesting to note that one of the plants recently sent to Kew by Dr. Watt, from the Naga Hills (east of Khasia), at 6,000 to 9,000 feet elevation, proves on flowering to be this species, and as until quite recently very little was known of the Flora of this district, there is little doubt that the habitat of the plant has now been discovered. The species was originally described as "a Java plant imported by Messrs. Veitch and flowered by both Mr. Rucker and Mr. C. B. Warner." Dr. Lindley, however, added that it was not to be traced among Blume's Javan plants, and afterwards Miquel was only able to include it in the Javan Flora on the authority of Lindley. Messrs. Veitch state—"Introduced by us from Java in 1846 through Thomas Lobb, but

now very rarely to be seen in the Orchid collections of this country" (*Veitch Man. Orch.*, vii., p. 117). Unfortunately, the localities of some of Lobb's plants were confused—a fact well known—and it is highly probable that Lobb met with the species during his journey to Khasia. The species is not included in the *Flora of British India*, and no wild specimens are known, but considering our limited knowledge of the Flora of the district in question this is not surprising. A figure was given by Lindley soon after the original description appeared (*Bot. Reg.*, 1847, t. 58), but the one given in the *Botanical Magazine* (t. 5326), as S. miniatum is erroneous, being the allied S. curvifolium, Lindl., which has different leaves and larger flowers. It is probable that Lindley himself fell into the same error, for one of the two racemes preserved on the sheet in Lindley's Herbarium belongs to S. curvifolium, and this is presumably the one alluded to as from Mr. C. B. Warner, but unfortunately its origin is not stated. The other one is carefully labelled "Java, Mr. Rucker, 27 Feb., 1847," and is the one from which the figure was prepared, and therefore the type specimen. It is remarkable how many errors have been incorporated into the history of this pretty little plant.

R. A. R.

DRYING ORCHID FLOWERS.

A CORRESPONDENT writes asking the best way of drying Orchid flowers, so as to keep their colour, and suggests that some notes on the subject in the *Orchid Review* would be interesting to other readers. If it is desired to preserve the shape as well as the colour, the flowers may be placed in a box, on a layer of dry sand, the ovary being first cut off to facilitate drying, after which the box may be carefully filled up with sand and placed in a warm place for a few days, until the moisture has evaporated. The secret is to get the flower dried before the tissues become at all decomposed, and, if this is done, many Orchids keep their colours very well for a long period. An account of this method was given at page 233 of our first volume. Dried in this way, however, they are not so easily stored afterwards as when pressed flat, which is the method we should recommend. The flowers should be laid between sheets of porous paper of some kind—blotting paper answers well—and then placed under a moderate weight, changing the papers every day or two, until the flowers are dry. Plenty of paper should be used, so as to absorb the moisture. The flowers can then be mounted on sheets, or stored between the leaves of scrap-books, care being taken to arrange them in such a way that they can be found when wanted. Some varnish them after mounting, and say it helps to preserve the colours: but it gives them an unnatural shiny appearance, which we do not admire. A

certain amount of heat facilitates the process of drying in any case. Some flowers, however—such as Lycastes and other fleshy kinds—invariably go brown in drying, and we know of no method by which this change can be averted. The process is exceedingly simple, and the way in which the colours of many flowers—such as Odontoglossums, Oncidiums, and Dendrobiums—are preserved for a long period is remarkable. Two or three collections have been exhited at meetings of the Royal Horticultural Society within the last year or so, as was recorded in our pages at the time.

AN INTERESTING EXPERIMENT.

MR. T. L. MEAD, of Oviedo, Florida, writes:—"I have just made arrangements to try a new experiment in Orchid seed culture. Many Orchids are rarely if ever found wild at less than 30 or 40 feet from the ground, even when other circumstances seem to favour them. So I have built a small platform in the top of a live oak, about 45 feet from the ground, and conveniently accessible by ladders, where I propose to try—under varied conditions as to moisture and exposure—seeds of some thirty or forty different Orchid crosses, including pods from Vanda cœrulea and Cattleya citrina, which are thought difficult to manage under glass. It is said that resident Orchid amateurs in the city of Mexico find the adult plants to grow much better on the housetops than in the garden, with equal attention as to watering, so I have considerable hope of good results from the experiment." We shall hope to hear the results. It would be interesting to note the daily range of temperature in the two situations, and any other obvious differences which might suggest the cause of any variation in the results obtained.

CALENDAR OF OPERATIONS FOR JUNE.

By H. A. BURBERRY, Highbury, Moor Green, Birmingham.

THE temperatures given for last month should be maintained in all departments, and the shading, airing, and damping down well attended to, which is a matter of great importance.

On the Cattleya and Lælia houses, also the Dendrobium and other warm houses, the roller blinds should be removed rather early in the afternoon—say from 3 to 5 o'clock, according to the aspect of the house—and at the same time the ventilation should be reduced and a thorough damping down given. Spraying the plants also overhead is beneficial. In fact, at this season, when the weather is bright and hot, a good drenching overhead with soft warm water when the house is closed is often practised with very

good results. But when this is done it is necessary to be a little careful with some few things whose young growths are in the habit of damping off. When plants are healthy, however, and the conditions well attended to, as advised, the plants that damp are few and far between, though one or two Dendrobiums are likely to do so, particularly D. Bensonæ and D. superbum. The houses so closed and damped down will become beautifully warmed, and a lovely growing temperature will be generated that will last throughout the night without the assistance of fire heat, although it is frequently advantageous, and even necessary, to have a slight warmth in the pipes during the night in the warmest departments, that is, the Dendrobium and East Indian houses. When finally closing the houses in this manner for the day, I always like to leave the ventilators more or less open at the bottom, according to the conditions of the weather. And it must be remembered that the above treatment is good only for Orchids that require much warmth during the growing season. For cool Orchids it would be fatal.

Although I have given the above method of cultivation as being a good one for the encouragement of free and healthy growth, it is not the best for Orchids that are in flower, that is supposing the blooms are required to last in perfection, for they are soon rendered spotted and useless by the damp. Even without the overhead syringing the flowers of any Orchid will spot just the same if there is no warmth in the hot-water pipes during the night. Failing this the flowers will not remain perfect without an abundance of air, such, for instance, as is given to the Cool house. We get over this difficulty by keeping a little house expressly for Orchids in flower. The temperature is intermediate, and is thus suitable for all except the Cool Orchids. A little heat is always in the pipes to keep down the damp, and the house is also well ventilated, and not only do the flowers last a long while in perfection, but the temperature is the very best in which to grow the maidenhair fern (Adiantum cuneatum), and it therefore answers a double purpose, a Fern house and an Orchid Show house. An illustration of this house was given at page 241 of the last volume.

In such a house how well the Orchids are set off, and what a pretty show they make, especially at this time of year. The gorgeous Cattleyas Mossiæ and Mendelii, and the not less showy Lælia purpurata, the beautiful Miltonia vexillaria, and the truly charming drooping spikes of Odontoglossum citrosmum are only a few of those that could be mentioned. Take care that the flowers of none are left on the plants too long, so as to cause exhaustion. In this respect much depends upon the strength and condition of the plants. If strong, the fact of blooming is nothing, but weakly shrivelled specimens, if allowed to bloom at all, should have their spikes removed as early as possible and placed in water.

The Cattleyas Mossiæ and Mendelii, and others that still remain, will

this month take their turn at the potting bench, and have done to them what may be required. The usual compost and the usual method of potting, as before given, should be meted out to the whole of this genus. When doing C. Bowringiana let them be potted rather high up, as the rhizome strikes a downward course, and if not well raised will soon get below the level of the rim. That most beautiful Cattleya Dowiana aurea, if not already done up and made comfortable, should be delayed no longer. This species does not possess the vigorous constitution of many others of the same genus. Our dull winters seem to rob it of a good deal of vitality, and much trouble is experienced where the air is laden with smoke, nevertheless, with careful attention, it does fairly well. We grow ours in rather more warmth than is given to the majority, and also C. Eldorado, C. Lawrenceana, C. Lueddemanniana, and C. Aclandiæ; in fact, the last-named does best suspended in baskets with the Dendrobiums. C. Skinneri is very showy now in bloom, and is easily grown, and requires nothing more than what the Cattleya house affords. The C. Warscewiczii (gigas) are now growing apace in their position at the lightest part of the house. The flower sheaths are showing this time on nearly every plant, large and small, as though it was a species most prolific, which is rather unusual. What can be the cause? Perhaps –as seems very feasible—it is the result of the particularly bright and hot autumn of last year.

Get on with the potting generally wherever it is practicable. The **Miltonia vexillarias may now be done. Unless very successful with this** species, do not aim at growing them into too large specimens, as it usually ends in failure. It is safer to keep them in small pots, and when a plant reaches large dimensions it is better to divide it and make smaller ones. Drain the pots—48's or 32's are the most suitable -about three-parts full with clean crocks, intermixed with a little charcoal. The top layer of crocks should be broken small. Use good fibrous peat and fresh sphagnum moss in equal proportions. Raise the plants rather high, and build the compost well up to the base of the last formed pseudobulb, so that the roots may speedily enter, and make sure that the plant is well supported where necessary with neat sticks until it is self-supporting. Odontoglossum citrosmum should also be repotted if necessary. It is an Orchid requiring but little root disturbance, and should be placed in pans or baskets in a firm compost of two parts peat and one part sphagnum moss, and suspended.

It will not be an easy matter to keep the atmosphere at this time of the year too moist, especially for the Cool house Orchids, the great volume of ventilation soon drying it up. Thrips, Aphides, and other pests, which are the frequent cause of so much mischief, are apt to increase rather quickly in this house at this season, and these it is absolutely necessary to

keep under at all costs. This department is still very gay. Odontoglossums crispum and O. Pescatorei are now seen to the best advantage. As a serviceable and showy Orchid the first-named can never be beaten, and small wonder that it is such a general favourite and grown in such enormous quantities. Nothing can possibly look nicer than a house full of this species in bloom, as they are at the present time, intermixed with a few O. polyxanthum, O. Hallii, O. luteopurpureum, O. × elegans, O. × Coradinei, and other yellow and chocolate-coloured species in their ever-varying hues and degrees of brightness. The culture of the whole of the above is of the simplest character. They require repotting about once in every two years they may go as long as three—but should be top-dressed annually. The compost should be of the usual peat and moss, and the potting done somewhat firmly. They like plenty of water during the summer, but should not be continually saturated. If treated in such a way, with free ventilation, they cannot fail to grow. But as I have said before, one thing is most particular, and must be strictly observed, namely, repotting them when in the right condition, which is when the new growths are one or two inches long. This may be at any time from now until the autumn months.

Oncidium Marshallianum, O. concolor, and O. olivaceum (cucullatum) are others now in flower. They are best grown in pans or baskets and suspended, otherwise the culture required is similar in every respect to other cool Orchids. Oncidium candidum, sometimes called Palumbina candida, is now pushing its flower spikes. This species, like O. cheirophorum, a pretty little thing that flowers in autumn, does best under pan or basket culture. They grow well in the Cool house for the summer, but are better for intermediate treatment in winter.

Lycastes are now growing apace, and if they are to be repotted should be done at once. They like a rather more substantial compost. The peat, therefore, need not be of the best quality, or a little fibrous loam can be mixed in. Lycastes are also better in the Intermediate house during winter, though they will stand a low degree of temperature if not overwatered. They are frequently lost through being kept too wet, especially L. Skinneri, which even when in full growth should be watered carefully. L. aromatica, L. cruenta, and L. Deppei, having been well rested since their last pseudobulbs were completed, are now producing a quantity of flower buds from their base. The new growths also appear from there simultaneously, and when these are seen they should be repotted, or they may be left over until the flowers have faded. If the latter course is adopted the new growths and roots will have grown very much in the interval, consequently the check will be greater. Bifrenaria Harrisoniæ (Lycaste Harrisoniæ) is a very pretty old Orchid, and requires about the same treatment and warmth as for the Lycastes in general. It is not a

particularly shy one to flower, yet it is by no means a floriferous one. I have never seen a specimen with a large quantity of flowers opened at the same time, as it produces them singly and in pairs at various times during the spring and summer months. I have noticed it flowers much better, however, if given a long dry rest throughout the winter.

The house where the Phalænopses are growing must now be kept very moist and warm and well shaded. The plants themselves may be sprayed with warm water two or three times daily. The deciduous Calanthes will now require a little more water at the root. They also delight in a good heat now that they are in active growth. Sobralia macrantha is now just commencing to flower, and may be assisted by a little weak liquid manure. Many of the Dendrobiums, Chysis, Galeandras, and such like Orchids that have been potted up, are making good growth, and getting well rooted, and may now receive a good supply of water. Cœlogyne Dayana is now bearing its interesting spikes of flowers, three or four feet in length. It is rather a warm growing species, and does best in the East Indian house. Cirrhopetalums and Bulbophyllums are perhaps among the most curious and interesting of Orchids. They grow best suspended, and prefer rather a warm temperature. Like the Dendrobiums, they must have a good winter's rest, or they bloom unsatisfactorily. I find that these peculiar little Orchids are none the better for very strong heat, such as is given to Phalænopses and some of the hotter-growing Dendrobiums, but prefer to be grown with the more temperate Dendrobes, such for instance as D. nobile, D. Wardianum, and such like species. Diacrium bicornutum is now in flower. It is a very handsome Orchid when well grown, and should be kept in the warmest house. By keeping it to very small pans, and giving a complete change of sweet fresh material each year, it will grow fairly well, and present a very respectable appearance, though it has rarely ever been known to put on such large pseudobulbs as it does in its native habitat.

CATTLEYA MOSSIÆ GRANDIS.

Many of the named forms of Cattleya Mossiæ have been lost sight of, and it is rather difficult to recognise them again from description. There is one very marked form, however, in several collections to which the above name was applied many years ago, when it was described by Mr. T. Moore as "the largest of all the forms in respect to the size of its lip; sepals and petals pale blush; lip mottled violet rose, with an irregular blush coloured edge, the base stained with buff-orange." (*Gard. Chron.*, 1864, p. 554.) A gigantic flower has been sent from the collection of Sir Frederick Wigan, Clare Lawn, East Sheen, in which the petals are over 4½ inches long by

3 inches broad, the other parts being proportionate. The front of the lip is less veined with crimson-purple than usual. There is a similar form in the collection of Sir Trevor Lawrence, and one in that of W. Davies, Esq., Moxhull Hall, Erdington, and it is probably represented elsewhere, and will be recognised from this description.

ORCHID PORTRAITS.

ANGRÆCUM LEONIS.—*Journ. of Hort.*, May 14, p. 439, fig. 71.

COCHLIODA NOETZLIANA, Rolfe. *Bot. Mag.*, t. 7474.

CYPRIPEDIUM × CRLON.—*Journ. of Hort.*, May 21, p. 467, fig. 77.

CYPRIPEDIUM × MEROPS.—*Gard. Mag.*, May 9, p. 302, with fig.

CYPRIPEDIUM × SCHOLFIELDIANUM. *Gard. Mag.*, May 2, p. 283, with fig.

DENDROBIUM CYMBIDIOIDES. *Gard. Chron.*, May 9, p. 581, fig. 90.

DENDROBIUM × WIGANIE. *Gard. Chron.*, May 2, p. 553, fig. 84.

LÆLIO-CATTLEYA × DIGBYANO-MOSSIE. *Gard. World.*, May 16, p. 598, with fig.

MASDEVALLIA CORNICULATA, Rchb. f., VAR. INFLATA, Veitch.—*Bot. Mag.*, t. 7476.

ODONTOGLOSSUM CRISPUM AUGUSTUM.—*Gard. Chron.*, May, p. 646, fig. 106; *Journ of Hort.*, May 28, p. 485, fig. 80.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THE display of Orchids at the Drill Hall, James Street, Westminster, on the 5th May, was more extensive than at most meetings immediately preceding the great Temple Show, and included a considerable number of interesting things.

A small group from the collection of Baron Sir H. Scroder, The Dell, Egham (gr. Mr. Ballantine), received a Silver Flora Medal. It contained the very beautiful Lælio-cattleya × Digbyano-Mossiæ, the two flowers being of great size, and in perfect condition; a large and well-flowered plant of Dendrobium thyrsiflorum Lowii, in which the lip is cream-white with a few yellow streaks, and approaches the petals in shape; a fine form of Odontoglossum × Wilckeanum, several fine forms of O. crispum, the pure white O. Pescatorei leucoxanthum, Masdevallia Veitchiana grandiflora with fifteen flowers, Cypripedium Lawrenceanum Hyeanum, C. × Gertrude Hollington, and Vanda teres grandiflora. The latter is a very large and richly-coloured form, to which a First-class Certificate was given.

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whiffen), received a Silver Banksian Medal for a very good group, including some good

Cattleyas Mossiæ and Mendelii, a finely-flowered Chysis bractescens, Oncidium Marshallianum, Odontoglossum crispum, a form of O. × Andersonianum with very yellow ground, Dendrobium chrysotoxum, and a plant of the brilliant little Dendrobium arachnites, exhibited under the name of D. inversum, and which received a Botanical Certificate last year.

W. S. Ellis, Esq., Hazelbourne, Dorking (gr. Mr. Masterton), also received a Silver Banksian Medal for a good group, containing Cochlioda Nœtzliana, Dendrobium Hildebrandii and its variety oculatum, and a number of well-grown plants of Odontoglossum crispum.

Sir Weetman Pearson, Bart., M.P., Paddockhurst, Crawley (gr. Mr. Capp), received a Silver Banksian Medal for a group consisting of three large and well-flowered plants of Cattleya Lawrenceana, C. Schrœderæ, some good Dendrobium nobile, and a fine spike of Catasetum trifidum with over thirty flowers, to which a Botanical Certificate was awarded.

J. T. Bennett-Poe, Esq., Holmwood, Cheshunt, exhibited a group of fifteen well-grown plants of Cattleya citrina, grown under cool treatment, to which a Silver Banksian Medal was given.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), received an Award of Merit for Odontoglossum Hallii grandiflorum, and a Botanical Certificate for Bulbophyllum tremulum, a curious little species with a feathery very mobile lip.

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), received an Award of Merit for a good plant of Miltonia Roezlii alba.

T. Fielden, Esq., Grimston Park, Tadcaster (gr. Mr. Clayton), received an Award of Merit for a fine form of Lælia purpurata called Grimston variety.

C. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), showed Cattleya × Preciosa (C. Lueddemanniana ♀ × C. Lawrenceana ♂), C. × Sedeni (C. Lawrenceana ♀ × C. Percivaliana ♂), and Lælio-cattleya × Eudora (L. purpurata ♀ × C. Mendelii ♂), the latter receiving an Award of Merit.

W. Vanner, Esq., Camden Wood, Chislehurst (gr. Mr. Robbins), received an Award of Merit for Odontoglossum crispum Princess, a fine form, which is noted on page 161.

The Hon. Walter Rothschild, Tring Park (gr. Mr. Hill), showed a fine form of Cattleya intermedia, an unnamed Epidendrum of the Encyclium group, with greenish white segments veined with light brown, and a white lip veined with pink, and a fine-flowered raceme of Catasetum macrocarpum, to which a Botanical Certificate was given.

E. H. Adcock, Esq., Ribblesdale, Dorking (gr. Mr. Green) received a Cultural Commendation for a fine plant of Cypripedium bellatulum with ten flowers.

C. Young, Esq., The Thorns, Sevenoaks (gr. Mr. Ryder), received a Cultural Commendation for Odontoglossum polyxanthum, bearing an inflorescence with five side branches and an aggregate of twenty-seven flowers.

J. F. Alcock, Esq., Northchurch, Berhamsted, sent Lacæna spectabilis with two good racemes, and Cattleya citrina.

R. B. White, Esq., Arddarroch, Garelochead (gr. Mr. Roberts) sent some good spikes of Odontoglossum crispum, O. × Wilckeanum, and O. × Ruckerianum.

W. A. Bevan, Esq., Coombe Court, Kingston, sent a fine form of Odontoglossum Pescatorei with purple blotched sepals and petals.

A. H. Smee, Esq., The Grange, Carshalton (gr. Mr. Cummins) showed Oncidium varicosum Rogersii, also a poor light form of Cattleya Mossiæ purchased as the wonderful blue "Cattleya Guaricoensis."

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr. Mr. Johnson) sent Lælio-cattleya × hyburiensis (L. cinnabarina ♀ × C. Lawrenceana ♂), a very vigorous hybrid, having developed two large pseudobulbs last year.

Messrs. James Veitch and Sons, Chelsea, staged a particularly fine group, to which a Silver-gilt Flora Medal was awarded. It contained a series of beautiful forms of Cattleya Schrœderæ, varying from blush to pink, and with the orange throat varying considerably in intensity; C. intermedia alba, C. Schilleriana, C. citrina, a fine C. Walkeriana, C. Lawrenceana, Lælia purpurata, the richly coloured L. × Latona, Lælio-cattleya × Zephyra (L. xanthina ♀ × C. Mendelii ♂), quite intermediate in character. Dendrobium × Stratius (D. japonicum ♀ × D. pulchellum ♂), Miltonia × Bleuana nobilior, Cypripedium Lawrenceanum Hyeanum, C. Chamberlainianum, C. × eurylochus, C. × Druryo-Hookeræ, quite intermediate between its parents, Anguloa uniflora, Lycaste Deppei, Oncidium Marshallianum, O. varicosum Rogersii, Odontoglossum ramosissimum, O. crispum, O. Pescatorei, Maxillaria Sanderiana, Masdevallia × Heathii, Colax jugosus, and various others. An Award of Merit was given to Chysis × langleyensis, a very pretty hybrid derived from C. bractescens ♀ and C. × Sedeni ♂.

Messrs. F. Sander and Co., St. Albans, exhibited a group of interesting things, including the very rare Meiracyllium gemmæ (Rchb. f.), Spathoglottis Lobbii, Dendrobium Bensonæ, D. superbum anosmum, D. Parishii, Miltonia Phalænopsis, Oncidium varicosum Rogersii, Cattleya luteola, Odontoglossum Harryanum, Cœlogyne Dayana, Stenoglottis longifolia, with tall spikes of lilac flowers, &c. A Botanical Certificate was given to Eria bractescens.

Messrs. W. L. Lewis and Co., Southgate, sent Odontoglossum Pescatorei Lewisii and Cattleya citrina.

THE TEMPLE SHOW.

ORCHIDS invariably form one of the features of the great Annual Exhibition of the Royal Horticultural Society in the Temple Gardens, and at the ninth of the series, held on May 19th and two following days, the display was about up to the average in point of numbers, though there was little in the way of novelty, and the absence of the sterling group contributed by Baron Schroder on former occasions was very noticeable. In the following report we have endeavoured to give the more important features of the different groups, omitting for the most part ordinary forms of the showier species, which are invariably represented in quantity at this season.

The group staged by the President, Sir Trevor Lawrence, Bart., was the finest yet contributed by him, both in extent and variety, and the material was most effectively arranged by Mr. White, so that even the smallest plants were seen to advantage. It occupied a space of about 30ft. frontage, and was full of interest from one end to the other, as the common showy species were only represented in limited numbers and in well-grown examples of their respective kinds. Among the more noteworthy plants were a splendid specimen of Epidendrum Stamfordianum, E. Mooreanum, E. × elegantulum, the miniature E. organense (Rolfe), a fine specimen of E. × O'Brienanum, E. vitellinum, E. atropurpureum Randii, a fine pan of Macodes Petola, Cochlioda Nœtzliana, Masdevallia × Mundyana, a well-flowered clump of the dwarf M. Wendlandiana, M. × glaphyrantha, M. coriacea, M. rosea with twenty flowers, and various others; Cattleya Walkeriana with eight flowers, C. × Parthenia, and other showy species, the brilliant Lælio-cattleya × Phœbe, Oncidium luteum, O. olivaceum Lawrenceanum, O. Kramerianum, some superb O. Marshallianum, Eria ornata, Microstylis Scottii and M. macrochila, Maxillaria Sanderiana and M. Houtteana, Megaclinum triste and M. Imschootianum, Stenoglottis longifolia, Octomeria diaphana, the remarkable Bulbophyllum barbigerum, Pleurothallis ornata, the charming little Saccolabium miniatum, a well-flowered Phalænopsis Lueddemanniana, P. Aphrodite, Dendrobium Bensonæ and D. revolutum, Miltonia × Bleuana nobilior, Orchis latifolia, Cœlogyne odoratissima, fine examples of Anguloa Ruckeri and Dendrobium Bensonæ, D. revolutum, D. × polyphlebium, Cypripedium × barbato-bellinum, a densely spotted Odontoglossum × Andersonianum, fine forms of O. × excellens, and good representatives of most of the showy things seen in other groups. Altogether, it was a magnificent group, and richly **deserved the Gold Medal awarded to it.**

H. S. Leon, Esq., M.P., Bletchley Park (gr. Mr. Hislop), staged a very fine group, to which a Silver Cup was given. It contained some excellent examples of Cattleya Lawrenceana, C. Skinneri, C. Aclandiæ, C. Schiller-

iana, C. Mossiæ, Lælia purpurata, Brassia verrucosa, Oncidium concolor, Cypripedium Rothschildianum with three fine spikes and ten flowers, Diacrium bicornutum, Odontoglossum Uroskinneri, O. maculatum, Angræcum sesquipedale, **Vanda suavis, &c. A First-class Certificate was** awarded to a large and richly coloured Cattleya Lueddemanniana Ernstii, **the lip being brilliantly marbled.**

Sir F. Wigan, Clare Lawn, East Sheen (gr. Mr. Young), also received a Silver Cup for a very beautiful group, containing Cattleya Schilleriana, C. Lawrenceana, some fine C. Mossiæ, C. Mendelii, C. Skinneri and C. S. alba, Cymbidium Parishii, C. Lowianum and C. L. concolor, Lælia purpurata, L. grandis, and L. Digbyana, Cypripedium × Wiganianum, Sobralia macrantha Kienastiana, the rare little Ena extinctoria, Leptotes bicolor, a fine Masdevallia ignea Eichardti, Miltonia vexillaria, Odontoglossums, &c. Awards of Merit were given to Cattleya Mossiæ Beatrice, Lælia purpurata Arthur Wigan, and Oncidium varicosum giganteum, and a **Botanical Certificate to Epidendrum hastatum.**

W. S. Ellis, Esq., Hazelbourne, Dorking (gr. Mr. Masterton), also staged a good group, to which a Silver Cup was given. It consisted largely of well-grown Odontoglossum crispum, with O. × Coradinei, O. cordatum, O. polyxanthum, Cochlioda Nœtzliana, Oncidium Marshallianum, Miltonia vexillaria, Cypripedium bellatulum, and a seedling Epidendrum from E. xanthinum ♀ and E. radicans ♂—a form of E. × dellense. A fine form of Odontoglossum crispum called Miss Victoria Ellis, white with a few spots **on each segment, received an Award of Merit.**

J. G. Fowler, Esq., Glebelands, S. Woodford (gr. Mr. Davis), received a Silver-gilt Flora Medal for an effective group, containing Cypripedium bellatulum album with two flowers, C. Lawrenceanum Hyeanum, a light and dark form of Denbrobium Phalænopsis, Oncidium monachicum, O. **olivaceum, O. Lanceanum, Thunia** Marshalliana, Denbrobium pulchellum, Miltonia Roezlii alba, Epidendrum Wallisii, and other showy species.

Major Joicey, Sunningdale Park, Berks (gr. Mr. Thorne), also received a Silver-gilt Flora Medal for a good group, in which were many good Miltonia vexillaria, with Dendrobium atroviolaceum, Anguloa Clowesii and A. Ruckeri, Oncidium ampliatum majus, O. Marshallianum, Cypripedium bellatulum, C. Stonei, C. Curtisii, Epidendrum atropurpureum Randii, Lælia cinnabarina, Cymbidium Lowianum, Odontoglossums, &c.

Earl Percy, Syon House, Brentford (gr. Mr. Wythes), received a Silver-gilt Flora Medal for another effective group, containing Vanda teres, Dendrobium moschatum, D. thyrsiflorum, D. Bensonæ, Oncidium sphacelatum, Aërides odoratum, Odontoglossum Hallii, and others, Lælia purpurata, Cattleyas, and other showy things, tastefully arranged with **maiden-hair ferns.**

J. H. Rolls, Esq., Bournemouth, (gr. Mr. Purseglove), received a Silver Flora Medal for a pretty group, containing Lælia majalis, Cattleya Schilleriana, C. Mossiæ, and various other showy species.

M. S. Cooke, Esq., Kingston Hill, received a Silver Banksian Medal for a neat group, containing Cochlioda sanguinea and C. vulcanica, a good Cypripedium Rothschildianum, C. Chamberlainianum, Dendrobium Devonianum, Brassia verrucosa, Oncidium olivaceum, Odontoglossum triumphans, O. × baphicanthum, a good Cattleya Schilleriana, and other showy species.

M. Jules Hye-Leysen, Gand (gr. M. Coene), staged a few fine things, including a fine Odontoglossum × Ruckerianum splendens, O. crispum, O. Pescatorei, and two others, which each received an Award of Merit. These were Miltonia vexillaria Coeneana, a fine rose-pink form, and Odontoglossum × Horsmanii with sixteen flowers, exhibited as O. × expansum.

C. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), received an Award of Merit for a fine light form of Cattleya Mossiæ, called Chas. Ingram.

G. W. Law-Schofield, Esq., New Hall Hay, Rawtenstall (gr. Mr. Hill), sent a pretty hybrid Cypripedium from C. Curtisii ♀ and C. niveum ♂, called C. × Cowleyanum Anna Louise, which received an Award of Merit.

T. W. Swinburne, Esq., Corndean Hall, Winchcombe, received an Award of Merit for Cypripedium × Corndeani, whose history is given at page 215 of our last volume. It is a large and striking form, and now proves to be a form of C. × gigas (C. Lawrenceanum ♀ × C. × Harrisianum ♂).

A Cultural Commendation was given to a well-grown plant of Odontoglossum crispum with six spikes from the Duke of Sutherland's collection (gr. Mr. Blair).

T. Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson) sent a fine Cypripedium × Gertrude Hollington and the pretty Cattleya Mendelii leucoglossa with blush sepals and petals and a white lip.

M. J. Moens, Lede, Belgium, sent Cypripedium × Baptisti.

Mr. Botelbeerge, Melle, Gand, sent a fine Odontoglossum polyxanthum.

R. Ashworth, Esq., Ashlands, Newchurch, near Manchester, sent a good Dendrobium nobile.

The trade collections, as usual, contributed largely to the display, and were generally good, though in some cases a little less crowding would have been an improvement.

Messrs. F. Sander & Co., St. Albans, staged a large and magnificent group, to which a Gold Medal was given. It contained a large specimen of Cœlogyne Dayana, some good Dendrobium superbum giganteum, D. thyrsiflorum, D. carinatum, D. dixanthum, D. Hildebrandii, the pretty

Habenaria rhodochila, Cochlioda Nœtzliana, Stenoglottis longifolia, Eriopsis rutidobulbon, Lueddemannia triloba, Oncidium unicorne, O. varicosum Rogersii, O. pulchellum, O. cornigerum, Epidendrum ionosmum, the handsome Sobralia × Amesiæ, S. macrantha Kienastiana, Cattleya Schilleriana, C. × Philo, C. Skinneri, a few fine C. Mossiæ, Lælia purpurata, Lælio-cattleya × D. S. Brown, L.-c. × Schilleriana, Odontoglossum Pescatorei and various other showy Orchids in well-grown specimens of good varieties. The rare and interesting little Meiracyllium gemmæ received a Botanical Certificate.

The group staged by Messrs. Hugh Low & Co., Clapton, was a very rich and effective one, and was awarded a Silver Cup. It contained some fine Phalænopses, including P. × leucorrhoda and P. × intermedia, Vanda teres, Cymbidium × eburneo-Lowianum, Oncidium Papilio, O. phymatochilum, O. monachicum, Odontoglossum Harryanum, O. Pescatorei, and others, Cypripedium × Gertrude Hollington, C. bellatulum, C. hirsutissimum, C. Lawrenceanum, C. tonsum, C. × Drurio-Hookeræ, Lælia tenebrosa, a fine pan of Macodes Petola, and various other showy Orchids. A First-class Certificate was given to Cattleya Mossiæ Arnoldiana, a large light-coloured form, with a band of pink down the petals: and an Award of Merit to Odontoglossum crispum Lowiæ, a prettily-spotted form allied to O. c. Capartianum.

Messrs. Charlesworth & Co., Heaton, Bradford, also received a Silver Cup for a fine group, in which were some very fine Cattleyas Mossiæ and Schrœderæ, Lælia purpurata, Oncidium Marshallianum, O. superbiens, O. concolor, and O. cornigerum, Odontoglossum crispum, and others; the rare and pretty Vanda × Charlesworthii, Epidendrum vitellinum, Lælia tenebrosa, Cirrhopetalum picturatum, Selenipedium × nitidissimum, &c.

Messrs. Backhouse & Son, York, also received a Silver Cup for a group of Orchids and other things arranged in rustic fashion. It contained some fine Odontoglossum crispum and others, Cypripedium Regnæ, C. Calceolus, and others.

A fine group exhibited by Mr. James Cypher, Cheltenham, received a Silver-gilt Flora Medal. It contained a finely-flowered plant of the beautiful Dendrobium Loddigesii, some very good Lælia purpurata, Oncidium concolor, O. monachicum, O. olivaceum, Odontoglossum ramosissimum, Epidendrum radicans, and E. × O'Brienianum, Cattleya Aclandiæ, C. intermedia, and others, Selenipedium × grande, Miltonia vexillaria, &c.

Messrs. B. S. Williams & Son, Upper Holloway, also staged a fine group, and received a Silver-gilt Flora Medal. Among interesting plants may be mentioned Pescatorea Roezlii, Promenæa microptera, Ornithocephalus grandiflorus, Trichopilia coccinea, Leptotes bicolor, Brassavola

Perrinii, Cochlioda Nœtzliana, Vandas tricolor and sauvis, Dendrobium moschatum, Lælia cinnabarina, Cattleya citrina, Odontoglossum × Wilckeanum, and other showy things.

Messrs. W. L. Lewis & Co., Southgate, received a Silver Banksian Medal for a fine group, containing a nice lot of Cypripedium bellatulum and C. niveum, C. × Lawre-venustum, C. × southgatense, and others, Oncidium sarcodes, O. hastatum, Odontoglossum citrosmum, some good Lælia purpurata, Cattleya Mossiæ, and other showy things. A First-class Certificate was given to Lælia purpurata Lewisii, a beautiful nearly white form, whose only colour was some faint purple radiating streaks on the lip.

Messrs. Linden, L'Horticulture Internationale, Brussels, sent a few good Orchids, including Odontoglossum Pescatorei, a fine O. × Ruckerianum, Cattleya Mossiæ Reineckeana, and the curious Gongora portentosa. A First-class Certificate was given to Odontoglossum crispum augustum, one of the darkest forms yet seen. The segments were white at the margins, but the disc of each was occupied by one irregular purple blotch. It was erroneously labelled as a natural hybrid.

Cut flowers of Orchids were also used to great effect in the stands for dinner table decorations, &c.

TREATMENT OF DENDROBIUM JAMESIANUM.

On the shelf over the fire-place of the office of a well-known dealer in this neighbourhood is a small plant of the above-mentioned species *growing in water*. This same plant has been there, to my knowledge, for at least nine months, and during that time has developed roots in the water, and a growth of seven or eight inches in length *from below the surface*. Of course I do not advise that growers should procure a stock of hyacinth glasses, but the above facts may suggest to some of us who are not successful with this species that an insufficient supply of water to the roots is the cause of failure.

F. H. Moore.

Liverpool.

CORRESPONDENCE, &c.

G. M. L., Lincoln. Dendrobium formosum.

C. Stoldt. Lycaste brevispatha and Odontoglossum tripudians.

We have received the Catalogue of Orchids and New Plants for 1896 issued by Messrs. F. Sander & Co., in which we notice a number of fine hybrids and interesting species of recent introduction, several of which are illustrated.

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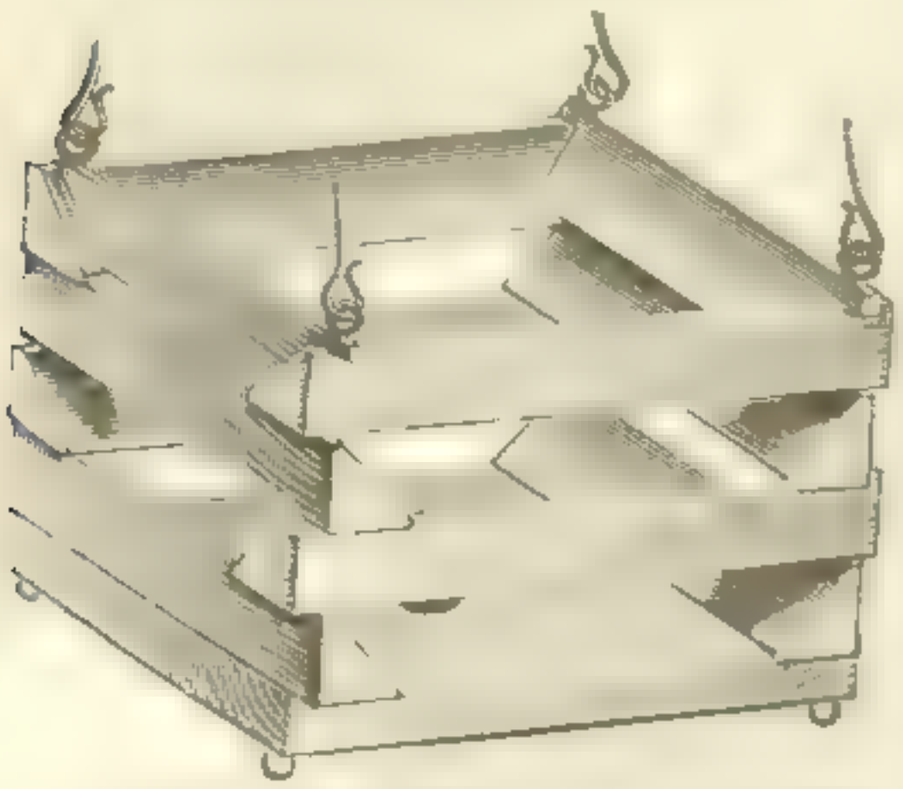
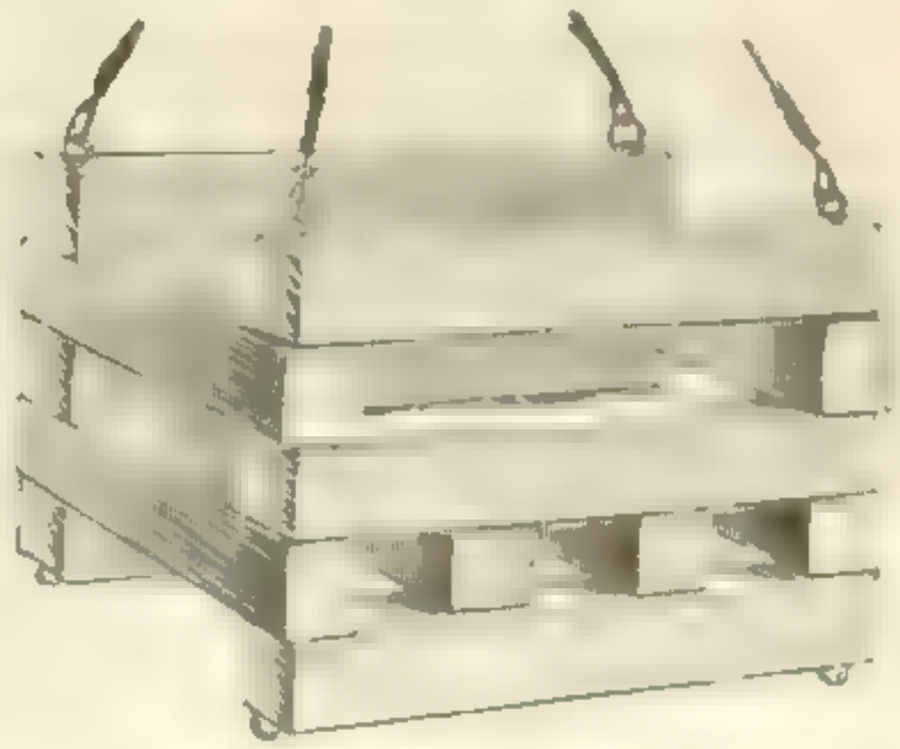


OLD STYLE BASKET.
Patent No. 14,573, Aug., 1895.



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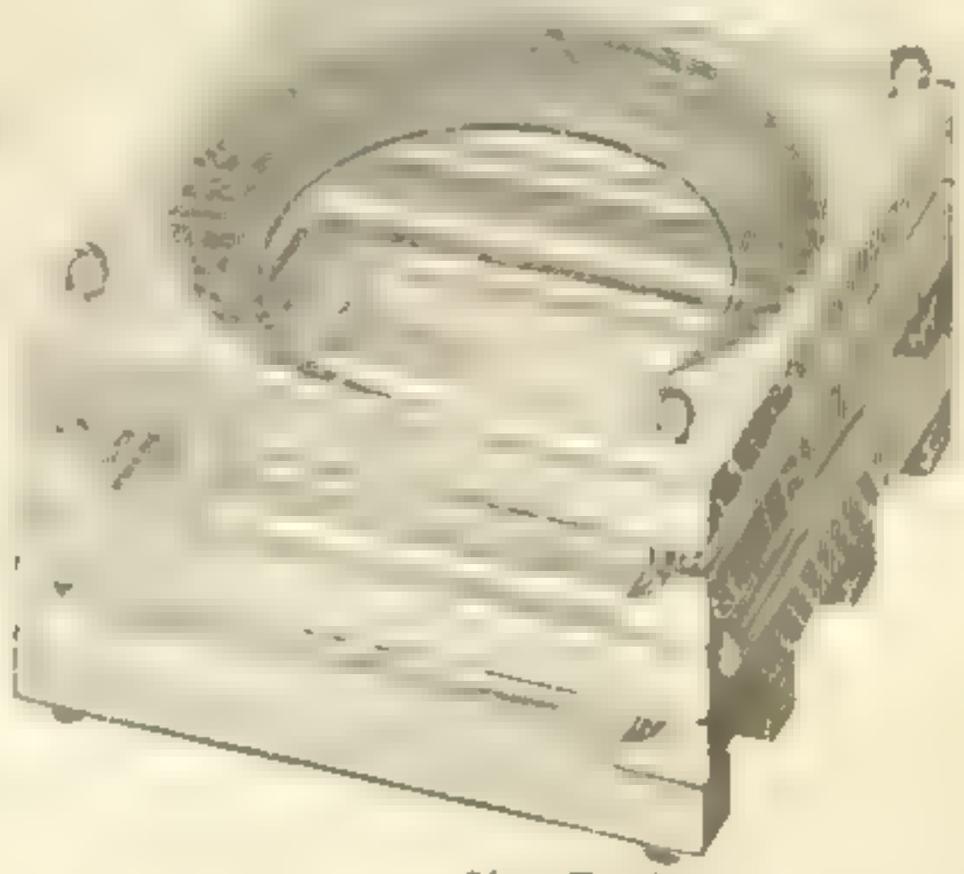

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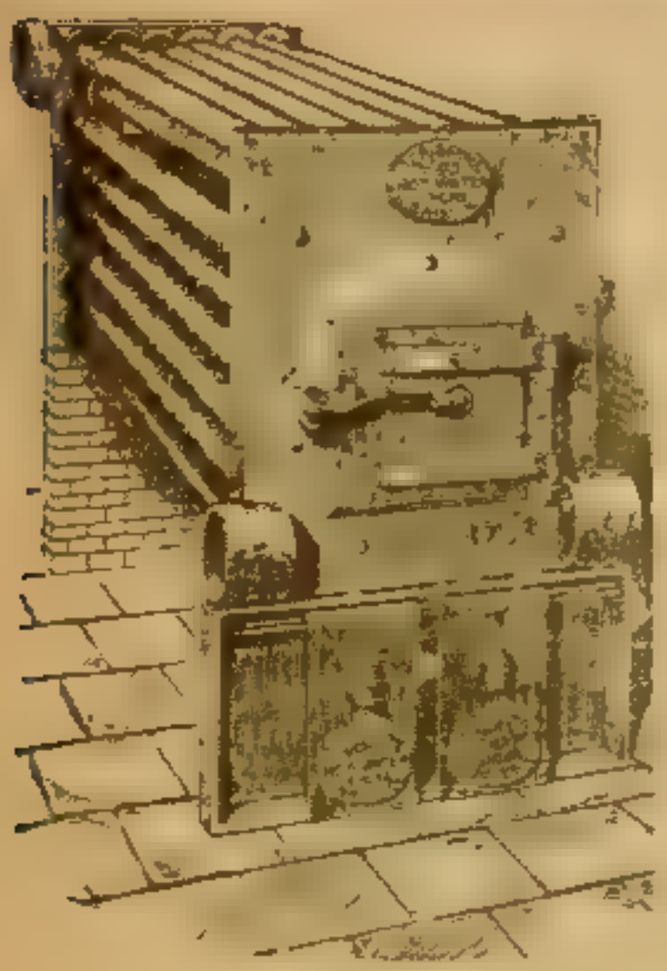

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An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James' Street, Westminster, during July, on the 14th and 28th respectively, when the Orchid Committee will meet at the usual hour of 12 o'clock noon.

A very pretty form of Cattleya Mossiæ has flowered in the collection of W. Horton-Smith, Esq., of Northwich, out of a number of plants imported last year. It is much like the variety Reineckeana, except that the veinings in front of the lip are slaty blue in colour, and somewhat suffused.

Some good forms of Lælia tenebrosa are sent from the collection of W. S. M'Millan, Esq., of Maghull, near Liverpool, together with a very pretty form of Odontoglossum Pescatorei, much like the variety ornatum, in which there is a triangular purple blotch on the front lobe of the lip.

Several very pretty forms of Odontoglossum crispum have been received from the collection of Hugh Steven, Esq., of Kelvinside, near Glasgow. They include the pure white O. c. virginale: a second with several minute spots on the lip, and a very few similar ones on the other segments: a third with a few large blotches confined to the sepals and lip: a fourth with very large flower, and broad, very undulate, unspotted segments: and a fifth with unusually long segments, measuring five inches from the tip of the dorsal sepal to that of the lateral ones. All of them show evidence of excellent culture.

Others from the same collection are O. Hallii with narrow segments: a form of O. × mulus, and O. × acuminatissimum, Rchb. f., a rare and interesting hybrid between O. luteopurpureum and O. Lindleyanum. A

photograph of this and one of the preceding are also enclosed, together with a flower of Cattleya Mossiæ grandis.

Two good forms of Lælio-cattleya × Schilleriana come from the collection of E. A. Beveis, Esq., of Oxford, one of which has the lip as strongly three-lobed as in L.-c. × elegans, though it is a finely developed form of the first-named. A light form of Lælia tenebrosa is also enclosed.

A photograph and flower of a handsome hybrid Masdevallia have been received from the collection of Captain Hincks, of Richmond, Yorks. It was raised from M. ignea Eichardti ♀ and M. coccinea Harryana ♂, and thus is a fine variety of M. × Fraseri. Captain Hincks has been remarkably successful in hybridising this genus, as our pages have testified from time to time.

The June number of *Knowledge* contains a series of half-a-dozen photographs of Orchids from the collection of the Right Hon. J. Chamberlain, M.P., with a short descriptive paper by Mr. H. A. Burberry. The plants represented are Cattleya Mendelii, C. Mossiæ Wageneri, Cypripedium bellatulum, Dendrobium formosum giganteum, Miltonia vexillaria, and Oncidium Papilio.

A supplementary list of hybrid Orchids, by Mr. H. J. Chapman, appears in the *Gardeners' Chronicle* for April 4th (p. 431), in which, however, we note the supposed natural hybrids Dendrobium Donnesiæ, D. Statterianum, and Phalænopsis speciosa, all of which should be expunged.

A recent issue of the *Journal of the Linnæan Society* contains a paper entitled, "An Enumeration of all known Orchids hitherto recorded from Borneo," by Mr. H. N. Ridley, M.A., F.L.S. (XXXI., pp. 261—306, t. 13—15), in which a new genus and about 47 new species are described, mostly of botanical interest. The former is called Porphyroglottis Maxwelliæ, and is allied to Chrysoglossum.

The same author announces (*Gard. Chron.*, April 11th, p. 452) the re-discovery of the long-lost Cœlogyne Rumphii, Lindl., from Amboina, in the Moluccas, by one of Messrs. Sander's collectors, so that the species may soon be expected in cultivation. It is allied to C. speciosa, Lindl.

A fine species of Vanilla from the Cameroon district, West Africa, is described and figured by Dr. Kränzlin under the name of Vanilla imperialis (*Notizbl. K. Bot. Gart. Berlin*, 1896, p. 155, t. 1). It is nearly allied to V. grandiflora, Lindl., from Prince's Island, and has yellow flowers of

about the same size, though they are smaller than in the leafless V. Rosscheri, Rchb. f., from East Africa, and the petals only half as broad.

We have received from the collection of D. B. Rappart, Esq., of Liscard, a good flower of Cattleya superba, in which the sepals and petals are distinctly veined with dark purple, through the nerves being darker than the ground colour. Mr. Rappart remarks that he grows a considerable number of this Cattleya, but has not seen one so distinctly marked before.

A flower of the large and handsome Oncidium crispum grandiflorum has been sent from the collection of J. T. Bennett-Poe, Esq., of Cheshunt, being one out of a raceme of seven. In 1894 it was also very fine, but the following year it was allowed a rest, in order to counteract, if possible, the tendency observed in this species to dwindle away. Two fine plants of it are also flowering in the collection of J. W. Arkle, Esq., of West Derby, Liverpool, one with twenty-eight and the other with thirty-three flowers. A really magnificent plant may be seen in the Kew collection, bearing a massive panicle with seven branches and over sixty large flowers.

Flowers of Epidendrum atropurpureum are also sent from the collection of J. W. Arkle, Esq. It is a very handsome species, and is very fragrant in the morning.

A flower of the charming albino Cattleya superba alba comes from the collection of E. Ashworth, Esq., Harefield Hall, Wilmslow. It is pure white with the exception of a little yellow on the disc, and agrees with the typical form in structure. A note respecting it appears at page 196 of our last volume.

A seven-flowered raceme of a good form of Odontoglossum sceptrum has been received from the collection of M. H. Van der Straten, of Bruges, through Messrs. Sander, in which the apex of the lip is white, and the petals much blotched and spotted with brown. The blotches and spots of the petals are comparatively small, so as to leave much of the yellow ground showing. It is very handsome.

A flower of a striking form of Cattleya Mossiæ has been sent from the collection of W. M'Millan, Esq., of Maghull, near Liverpool. The sepals, petals, and lip are all irregularly streaked with broad white longitudinal bands, which give it a very distinct appearance. It is closely allied to C. M. Hardyana. Cattleya Mendelii, with the front of the lip very richly coloured, is also enclosed.

A dark form of Lælia tenebrosa comes from the collection of F. H. Moore, Esq., of Liverpool, in which the colour in the throat is almost purple-black, so dark is it.

The splendid form of Cattleya Warscewiczii described at page 258 of our last volume fetched 14 guineas at the recent Arddarroch sale. The plant has now eleven pseudobulbs. Cattleya × Lawre-Mossiæ, which received an Award of Merit on April 7th last, as recorded at page 157, fetched 11 guineas. A fine form of Odontoglossum excellens realised 25 guineas; and the best varieties of Cattleya Mendelii went for 60, 50, 40, and 30 guineas.

Mr. G. Hansen writes that he is engaged in compiling the second supplement to his work on Hybrid Orchids, intended to record all additions published up to October next, and would be glad of any notes either by way of addition or correction of previous records. The sources would be gladly acknowledged.

The hybrid Disas noted at page 203 of our second volume are again flowering in great force in the Kew collection, together with D. racemosa and D. tripetaloides. It is remarkable how easily grown and floriferous they are, and as the flowers are so lasting we anticipate a great future for them.

ANGRÆCUM FOURNIERÆ.

A FINE Angræcum from Madagascar is figured and described in the *Revue Horticole* for June 1, under the above name (p. 256, with plate), which flowered in the establishment of Messrs. F. Sander & Co., St. Albans. It is, however, the plant described a year ago from the same source, as Angræcum stylosum, Rolfe (*Kew Bulletin*, 1895, p. 194), which name has therefore the claim of priority. It is a striking species, having the general habit of a large A. apiculatum, Hook., with much larger flowers, and a remarkable style-like column, in allusion to which the name was given. It bears about four largish leaves on a very short stem, and long pendulous racemes of white flowers with long curved spurs, which, like the rachis, are brownish in colour. The flowers approach A. Ellisii, Rchb f., in size, though it is easily distinguished by the remarkable column.

R. A. R.

ODONTOGLOSSUM CRISPUM AUGUSTUM.

IT is said that the beautiful Odontoglossum crispum augustum, which was noted at page 192 as having received a First-class Certificate at the recent Temple Show, was exhibited by MM. Dallemagne & Cie, of Rambouillet, and was purchased by M. Jules Hye, of Ghent, for the sum of 300 guineas.

Various offers were made for the specimen as soon as it was unpacked and staged, and Mr. Backhouse, of York, offered the same sum for it as M. Hye, who, however, had made the first offer, and consequently became the fortunate possessor. It is said to be the highest price ever paid for an Odontoglossum.

DIES ORCHIDIANÆ.

Last month I called attention to Mr. Chamberlain's article on the Nomenclature of Orchids and some remarks thereon made by the *Gardeners' Chronicle*, and I note with satisfaction that the said article has also been reprinted in the *Gardeners' Magazine* (May 30, p. 357). Mr. Hurst also has given us an admirable article on the same question (p. 165), and I cannot help thinking that the publicity thus given to the question will be the means of effecting a much needed improvement —indeed, I think signs of it are already visible.

The Orchid Committee of the Royal Horticultural Society has been blamed for a good deal of the confusion against which so strong a protest has been made, chiefly because of its failure to carry out its own rules—and to this point I have several times called attention—and I therefore note with satisfaction that at a recent meeting the Committee did refuse to recognise an unauthorised name, though at the same time awarding the plant a Botanical Certificate. I allude to the plant exhibited as a new Pogonia on June 9th. This case is fully provided for in the Society's rules. "An award should be made to any plant that is considered by the Committee worthy of such distinction, even though it be unnamed, or not named in accordance with preceding regulations, *provided that*, within a reasonable time, to be determined by the Committee, a proper name be given. The certificate of an award made under the circumstances detailed in this paragraph should be withheld until the plant has been properly named." A similar award was made to a supposed new Batemannia on the same date under similar conditions, both the plants being referred to Kew, where I believe they have since been named, and the conditions thus having been complied with, the certificates will, of course, be issued with the proper names. This is a very good beginning, and I hope the the Committee will invariably carry out the rule in future. Had they done so earlier they would have avoided the absurdity of certificating the old Bletia catenulata –the original species in the genus—under the new name of B. Watsoniana, to which I alluded at p. 298 of our second volume.

A large number of these Botanical Certificates have been awarded of

late, and the award is sometimes considered a rather dubious one. The *Gardeners' Chronicle* (p. 614) remarks:—"When a plant comes before the Orchid or the Floral Committee, the object is not to illustrate its botanical history, but to ascertain whether, in the judgment of that Committee, the particular plant is, or is not, worthy of commendation for cultural or decorative purposes. If it is not, it may still get a Botanical Certificate! a distiction which the Committee is not competent to give, because unable for the most part to assign a reason for the award. A Botanical Certificate should take precedence of all, but in practice it is the least regarded." I had hardly looked on the question in this light before. Fancy Sir Trevor Lawrence's charming little Saccolabium miniatum receiving a Botanical Certificate to mark the Committee's opinion that it is not worthy of commendation for cultural or decorative purposes! My own impression is that these certificates are intended as a sort of consolation prize, to indicate that the particular plant exhibited is very pretty or possesses some very interesting feature, but is hardly worthy of *general* culture for decorative purposes. Such plants are often called "Botanical Orchids," and the term is pretty well understood.

I also read the article on "Supposed Hybrid Orchids, by Major-General Berkeley, at page 167, and the editorial note thereon, with interest, for I have never been able to understand why some of our compilers take such delight in raking up every worthless record, long after they have become exploded fallacies, and incorporating them with well ascertained facts, as if of equal value. Several such compilations would have been vastly improved by a severe editing before going to the printer. As it is errors are copied from work to work with exasperating regularity, and like the every-increasing number of "provisional names," **are only a nuisance.**

We seem to have had a very bad outbreak of the Cattleya Fly, but I hope that the attention it has received will lead to its speedy extermination. I note that one or two correspondents experience a similar difficulty to that which George the Third is said to have felt about the dumplings—namely, to account for how the apples got inside, for they cannot imagine how the grubs get inside. However, they do get inside somehow, and I think the easiest way to prevent that is to kill all the flies directly they come out.

None of my correspondents have sent me the essay on the blue Cattleya, so I must conclude that the difficulty of writing an essay on a "blue Cattleya" which is not blue is a task beyond their powers, as it is beyond mine.

ARGUS.

THE CATTLEYA FLY.

I HAVE sent you another growth of Cattleya labiata, on which you will see that after a pseudobulb had been cut two eyes came away from it, one I have pierced with a needle and it has decayed, the other is a well rooted eye with the fly inside. In my opinion cutting out is the best way of keeping the monster down. Of course, the plants are greatly weakened, and some will not show any eye after being cut too often. I keep my plants together very dry in pots, but the stage is well damped several times during the day, and I also use very little shading. You will see how fine the roots are.

I see in the last issue of the *Orchid Review* that "Wellington" wonders how the grub gets in the young bulbs. I, for myself, believe that when grown too soft the marrow of the eye brings the pest, as I cannot see after all I have had in hand how it can be any other way. I have had a good look out for the pest this season, and since January have not seen a developed fly.

I remember that in 1882 we received Cattleya Dowiana from San Jose, Costa Rica, with eyes exactly the same as those you have before you, not having done any good.

FRED. ROESLIN.

Tynemouth.

[The specimen sent shows two arrested growths about an inch long, from the base of an old pseudobulb with seven roots. The base of these growths was much swollen. One was decaying (as the result of being pierced with a needle), but on splitting the other longitudinally a cavity about a quarter-of-an-inch long was found in the centre, close to the base, containing three white grubs, all in the pupa stage. The shape of the fly was clearly defined, and the eyes, legs, &c., clearly visible under the lens, so that the flies might have changed to black and come out in a very short time. We do not yet know how long the insect remains in the pupa stage. Some of our correspondents do not understand how the grubs get inside the growth, as they cannot find the opening, but, as we have already pointed out, the explanation is very simple. The insect is one of the gall-makers, and lays its eggs inside the young tissues of the plant, which it pierces with its ovipositor for the purpose. The opening is so minute that only a microscope would show the opening at the time, and the tissue, no doubt, heals completely in a short time. The eggs quickly hatch, and the young grubs feed upon the tissues for a certain time, after which they change to pupæ, and then to the perfect insect, which cuts its way out, and soon lays its eggs as before. The flies seen by our correspondent in January may have laid the eggs of the pupæ now sent, and as these might have emerged

in a very short time there may be two broods of insects in the year, and this is a point we should like to see cleared up. Our correspondents should now be on the alert, as if flies are now coming out they should be prevented from laying more eggs if possible. We must point out that it is not a question of culture, as the fly would continue to thrive on the best grown plants if not exterminated.—ED.]

My experiments on the Cattleya fly took, a week ago, a rather unlooked for finish, in so far that I killed the insects before I really had finished my experiments. Tepid water had, I found, no effect on them, but cold water syringed on them prostrated them considerably. They seemed to be easily destroyed by introducing a lighted candle (Price's night lights) to the place where they are. I had them in a large glass case, and put into it one evening one of these candles standing in a basin of water (not an original idea of mine); the following morning I found them all dead in the water. Like most insects they seem to fly towards any light that is near them. I think this process would be a cheaper and also safer remedy than repeated smoking.

D. R. RAPPART.

I think that the Dendrobium beetle comes to the surface if the plant is immersed in water, but, of course, there may be more varieties of this insect than I have seen.

Promenade,

Liscard, Cheshire.

OBITUARY.

WE regret to hear of the death of Mr. Bruce Findlay, Curator of the Manchester Royal Botanical Gardens, which took place at his residence, at Old Trafford, on June 16th, at the age of 61 years. Mr. Findlay was appointed Curator in 1858, having previously passed some time in Messrs. Rollisson's Nurseries, at the Royal Gardens, Kew, and afterwards as foreman at the Botanic Gardens of Hull and Sheffield. In 1875 he was appointed Secretary of the Manchester Botanical and Horticultural Society, and his work in connection with the great Whitsuntide Show at Manchester, in which Orchids form so important a feature, is well known. In 1881 he was presented with a testimonial, consisting of an address with a gold watch and chain, with a cheque for £1,000. Mr. Findlay has been in failing health for some time from an internal complaint. He was interred at Stratford Cemetery on June 19th.

AN AMATEUR'S NOTES.

Last month I neglected to put my notes together until too late, and now there is already an appreciable falling off in the number of showy things in flower. Cattleya Mossiæ and C. Mendelii are being replaced by C. Gaskelliana and C. Warneri, both very beautiful, though the latter appears to be comparatively rare. C. Aclandiæ is also flowering well, and is a handsome little plant. Lælia purpurata is also being replaced by the handsome L. tenebrosa, which is now common. There is a good deal of variation in the depth of colour of the flowers, but the beautiful yellow forms still remain rare. Dendrobiums are now largely over, but the beautiful D. Falconeri forms an exception, and D. Phalænopsis is coming on in increased numbers; at a time when it is very useful. D. formosum, of course, is now flowering splendidly, together with D. chrysotoxum and a few others, among which the pretty little D. Jenkinsii must be included. Cœlogyne Schilleriana is another handsome little plant just now flowering well, together with C. Massangeana.

The remarkable Nanodes Medusæ, with its deeply fringed lip and lurid purple colour, is now one of the most interesting objects in the house, and beside it are several plants of Epidendrum vitellinum bearing many of its handsome spikes, and E. atropurpureum. Calanthe × Dominii invariably flowers well at this season, and remains in perfection for several weeks. A good plant with several strong spikes is a really striking object, and it is one of the easiest to grow into a good specimen. It is further interesting as the first of artificial hybrids. Broughtonia sanguinea, Anguloa Clowesii, and Vanda suavis are also flowering freely.

Miltonia vexillaria is still making a good show, together with M. Phalænopsis. Odontoglossums, too, are well represented, and include, among others, various forms of O. crispum, O. maculatum, O. cordatum, and O. × Coradinei. Oncidium crispum is now at its best, and its great panicles of rich brown flowers are very effective. O. Lanceanum is also flowering well, and two or three of the smaller yellow kinds. Aerides Fieldingii and Rhynchostylis retusa are now bearing their long drooping spikes, resembling a fox's brush, which has led to the former being called the Fox-brush Aerides. The handsome Phajus Humblotii is also flowering well in the warm house, together with Stanhopea inodora, S. oculata, and S. Wardii, which are very handsome while they last.

Among Cypripediums may be mentioned C. superbiens, Stonei, Curtisii, Parishii, Volonteanum, Lawrenceanum, barbatum, and several hybrids, as among those making the best show. The above does not by any means exhaust the list of Orchids in flower, but includes the majority of those which are most conspicuous at the present time.

AMATEUR.

A NEWSPAPER CORRESPONDENT ON ORCHIDS.

THE following article appeared in the *Daily Mail* for May 6th last, under the title "Most Rare: Flowers that cost lives to secure," and is sufficiently amusing for reproduction in our pages. It might have appeared under the title—"The Romance of Orchidology."

When you think of it, it is strange that the Orchid should find so many admirers, and be raised by them on a pedestal high above every other flower that grows. It is curiously shaped, true, and its petals are richly hued, but it gives forth no sweet perfume, for when it is not scentless its odour is unpleasant. Still, the fact remains, the Orchid is the rarest and most valuable of all flowers. There are some varieties, even, that exist only in tradition, and have been seen only by savages in the dense tropical forests where they grow.

Yet so great is the pecuniary reward for these rare and wonderful flowers that men are continually risking and losing their lives in the attempt to obtain the plants which produce them. For it is in fever-haunted jungles that the most prized and rarest Orchids are to be found.

Another thing that makes these rare bulbs worth many times their weight in gold is that after the Orchid hunter has returned triumphant, perhaps dying, to the coast, the bulbs must be watched and tended unremittingly on the long voyage home, and even then they may die before they have produced more than a single flower, or even none at all.

The rarest of all the varieties of Orchids are the blue ones, and the list of these is short indeed, even when those which exist only in the tales of Orchid hunters are taken into account. One kind, the blue Calanthe, is said to grow in Burmah. The variety has been much sought after, but without success, as the country in which it grows literally swarms with tigers and robbers.

A single specimen of the blue and white Cypripedium is known to have reached England, but it has not yet flowered. It was found in Western Borneo, by a hunter named Ericcson.

In searching for this flower its discoverer for days followed a path knee-deep in mud, through a swamp, and at night slept standing, propped against a tree. When he reached the coast with his treasure it took him some months to recuperate, and the last heard of him was that he had again plunged into the unknown in search of other rare varieties of Orchids.

In the Solomon Islands is the home of a species of Orchid, which grows there in every hue. But there cannibalism is still all but unchecked. Orchid hunters who have ventured there aver that the natives when they offer human sacrifices to their gods load the victims with garlands of these

gorgeous blossoms. Until spear or knife or flame ends the victim's life these flowers still hang or twine about him, their colours growing richer and deeper hued with his spurting blood.

Another valuable species only reached civilisation less than a year ago. It grows somewhere in the Western part of Mexico, exactly where the Indians, from whom the specimens were obtained, will not tell, for they regard the flower as sacred. It took two years and a vast amount of money and diplomacy to bribe these Indians to part with seven bulbs of it.

There are many other rare varieties which a score of rich collectors would give any price for.

There died about a year ago a famous Orchid hunter named Fosterman. But before he died he told of a wonderful Orchid which he said existed in Brazil, and which it had been the ambition of his life to secure.

Landing on the coast of Brazil, a few degrees south of the equator, he met a native chief, who told him of a "village of the demon flowers" to the westward. Further questioning convinced him that the "demon flowers" were Orchids of the rarest and most wonderful kind, so he decided to find this "village" at any cost. The chief warned him, vowing that to approach the flowers was certain death, but it only served to make the Orchid hunter the more determined. He had travelled through forests about six weeks, and was calculating that in a fortnight more he should be in the neighbourhood of the "village of the demon flowers," when, one afternoon, three of his forward guards threw up their arms, and with a cry fell senseless to the ground. He had noticed a peculiar sickening odour pervading the heavy, heated air, and quickly gave the order for the other men to advance with caution and drag back the three fallen ones from the spot where they lay. They did so, and returning, reported that they had seen through the forest, a little further on, the vast "village of the demon flowers."

Accompanied only by his Portuguese interpreter, the Orchid seeker started forward, their mouths and noses muffled as a safeguard against the awful odour. They managed to reach the spot where the three men had been stricken down, but could go no further. They could see a hundred yards ahead of them a great mass of Orchids. Trees, undergrowth, and everything were loaded down with them. They were of hues more brilliant than any Fosterman, experienced collector that he was, had ever seen or dreamed of seeing. But, like a barrier, the wall of awful, sickening, overpowering odour rose between. The two retired a little way, knowing that if they could reach those flowers their fortunes would be made.

But it was of no avail. The mass of brilliant orchids might have been a mirage painted on the clouds, so far as reaching them was concerned. The "village" was perhaps an acre in extent, and the two made a complete circuit of it, but everywhere rose the awful odour. At last, almost crying

with the bitterness of his disappointment, Fosterman gave it up and returned with his companion to the rest of his party.

The odour was simply the perfume of this vast mass of Orchids. It is a curious fact that, though many Orchids are almost scentless, the handsomest ones have a most unbearable smell. When millions of them are collected in a small space this stench, as can easily be imagined, becomes simply intolerable and is literally fatal when long inhaled.

Returning to London, Fosterman told this wondrous tale to some of the rich Orchid collectors, and an expedition was organised to go in search of it. Fosterman was ill and could not go. The expedition found the exact spot, but they gave up in despair of ever being able to more than feast their eyes upon the flowers through their field glasses. And there, somewhere in the depths of the vast tropic forest, they remain to this day.

HOMALOPETALUM JAMAICENSE.

A VERY remarkable new genus of Orchid is figured and described in the last number of *Hooker's Icones Plantarum* (t. 2461), under the name of Homalopetalum jamaicense, Rolfe. It was found growing sparingly on the trunks of trees in the Blue Mountains, Jamaica, at 4,000 to 5,000 feet elevation, by Mr. W. Harris. It is a plant of very dwarf habit, and, except in having creeping rhizomes, closely resembles the Brazilian Pinelia hypoleta, Lindl. The flowers, however, are very different in structure, the six perianth segments being nearly alike in shape, and the anther and pollinia almost as in Tetramicra, next to which it must be placed. The great peculiarity of the plant is that the staminodes are not united to the median petal, forming the side lobes of the lip, but consist of a pair of falcate-oblong erect auricles or teeth at the base of the column, to which they are partially united. Thus the median petal is not modified into a lip, as is usually the case in this order, but is like the lateral petals, in allusion to which the generic name is given.

The *Gardeners' Chronicle*, in alluding to this plant (p. 708), remarks that "whether the staminodes ever enter into the composition of the lip, as is stated, is a matter for further enquiry," which suggests a doubt in the writer's mind as to whether the side lobes of the lip are petaloid staminodes at all. Some details on this point are given at pages 364 to 367 of the last volume, and examples were given of flowers in which the side lobes of the lip had actually reverted to perfect stamens, thus giving three perfect stamens at the top of a straight column. In every such case the side lobes of the lip were absent, and the median petal was like the lateral ones in shape, colour, and texture. Had the two additional stamens been present and the lip

remained normal it would have shown that the additional stamens were not reversions of petaloid stammodes of the outer stamenal whorl, but of the inner whorl; that is of the two stammodes which form the wings or teeth of the column. But a careful examination proved that they belonged to the former. In short, these organs had reverted to an ancestral condition, and, of course, could not do duty as staminodes at the same time. It was also shown that the normal stamen may occasionally become petaloid as an abnormal condition.

Darwin, in a chapter on the "Homologies of the Flowers of Orchids" in his *Fertilisation of Orchids* has shown how in many Orchids he traced the vascular bundles of the side lobes of the lip to the cords which supply the lateral stamens (not to the one from which the middle lobe arises), hence they occupy precisely the position of the lateral stamens of the outer whorl of a lily or other monocotyledon, proving that they are homologous with them, but modified into petaloid stammodes. Darwin observes: "The labellum is formed of one petal, with two petaloid stamens of the outer whorl, likewise completely confluent. I may remark, as making this fact more probable, that in the allied Marantaceæ the stamens even the fertile stamens, are often petaloid, and partially cohere. This view of the nature of the labellum explains its large size, its frequently tripartite form, and especially the manner of its coherence to the column, unlike that of the other petals." The above facts leave little room for doubt as to the origin of the organs in question. It may further be pointed out that the wings of the column are sometimes as truly petaloid as the side lobes of the lip, but no one doubts that they are stammodes, and perfectly homologous with the stamens of Cypripedium, or with the lateral stamens of the inner whorl of a lily or other monocotyledon.

R. A. R.

DIACRIUM BICORNUTUM.

An interesting note respecting this beautiful Orchid is given by Mr. W. E. Broadway, of Grenada, in the *Gardeners' Chronicle* for May 2nd p. 548: "On boulders and bare stumps, which would otherwise be bare and unsightly objects about the Botanic Garden and the Government House Grounds, clumps of this most lovely Virgin Mary Orchid have been planted, and are now in full blossom (March 23th, 1896). The pure white flowers with dotted and streaked lip and column-base, fill the air with a delightful aroma, and these, massed together in profuse numbers, form a very effective sight, glistening in the sun as though covered with frost. We have a specimen which differs somewhat from the ordinary white in this respect,

that its flowers are purple-tinted, and the lip divisions narrower. The flower stems are dark-coloured throughout, and, in consequence, show up the white bracts distinctly, and thus it resembles D. indivisum. In the other the peduncles are green. The sheathing leaf base has purple lines, the white form green ones. D. indivisum, growing beside its ally, presents a miserable comparison: its puny white flowers are quickly followed by seed-pods. D. bicornutum is a feature of Government House Grounds during the early months of the year, when its flowers expand in large numbers."

CYPRIPEDIUMS NIGRITUM, VIRENS, AND DAYANUM.

Some very interesting information has come to light respecting these three species. The history of C. nigritum was given at page 79, and shortly afterwards it also flowered in the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, out of a batch of imported Bornean Cypripediums purchased from Messrs. Hugh Low & Co. And now both C. Dayanum and C. virens have flowered out of the same lot, thus affording evidence, as Mr. Wrigley very well points out, that the three grow together. The leaves of C. nigritum and C. virens resemble each other so closely as to be almost indistinguishable, and out of flower the two might be gathered as a single species, but those of C. Dayanum are much more strongly tessellated.

C. virens appeared as a single plant among an importation of Cypripedes from North Borneo, in 1858, made by Messrs. Hugh Low & Co., from whom it was acquired shortly afterwards by the late Mr. John Day, of Tottenham. It is nearly allied to the Javan C. javanicum, and, indeed, is sometimes considered as a variety of it. It is, however, a distinct geographical form.

C. Dayanum was discovered on Mount Kina Balu, in north-east Borneo, by Mr. (now Sir Hugh) Low, who sent it with some pitcher plants to the nursery of Messrs. Hugh Low & Co., at Clapton, from whom Mr. Day, of Tottenham, acquired the box containing the entire stock of both. A few of the Cypripedium only survived, and one of them flowered in the summer of 1860. It remained very rare in gardens until 1879, when Messrs. Peter Veitch and F. W. Burbidge again obtained it in the same region, when collecting for Messrs. James Veitch & Sons.

The above facts are interesting, especially in connection with the information respecting natural hybrids in the genus which has recently come to hand, and, considering how little is known of the conditions under which these plants grow, it is advisable to place them on record.

R. A. R.

BOTANICAL ORCHIDS AT KEW.

ONE of the most remarkable Orchids now flowering in the Kew collection is the South African Bartholina pectinata, which has the lip broken up into seventeen or more radiating linear lobes, lilac-purple in colour. Owing to a fancied resemblance of the lip-segments to the legs of a spider, it has been called the Spider Orchid. It is about four inches high, and bears a single cordate leaf close to the soil. Masdevallia muscosa is remarkable on account of its mossy pedunicles, and the habit of the lip closing up suddenly when a little tubercle near the base is touched, but gradually opening again after a short time. The arrangement is evidently connected with the fertilisation of the flower, and its effect would be to temporarily imprison an insect which crawled over the tubercle. M. hieroglyphica, M. peristeria, M. triaristella, M. demissa, and others are also now flowering. Megaclinium minutum is a compact tuft, completely covered with its erect flattened racemes; Spathoglottis ixioides is a dwarf Himalayan species, with pretty bright yellow flowers. Cryptochilus sanguineus is remarkable for having the sepals united into a tube, whose colour is indicated by the specific name.

Maxillaria sanguinea is a very graceful and pretty little plant with a bright crimson lip, and flowers very freely when well grown. M. acuntha has green flowers with remarkably persistent rigid segments. Among Polystachyas may be mentioned P. bulbophylloides, exactly like a small Bulbophyllum in habit, P. zambesiaca with yellow-green flowers, and P. bracteosa. Cirrhopetalum gracillimum is an elegant little thing with nearly crimson flowers, the lateral sepals being very long and narrow. Platyclinis is represented by P. abbreviata and P. longifolia, and Pleurothallis by P. unistriata, P. rotundifolia, and others. Bifrenaria Harlesworthii is a rare Brazilian species with hairy lip: Luisia cantharis has flowers exactly resembling a beetle; and Erycina echinata is a curious Oncidium-like plant **very seldom seen in cultivation.**

Among Oncidiums may be mentioned O. Harrisonianum, O. urophyllum, and O. virgulatum: and among Epidendrums the pretty little E. bracteosum, E. equitans, and E. virgatum. Other interesting things are Phalænopsis Esmeralda, Promenæa xanthina, Gomeza planifolia, the pretty Colax jugosus, Gongora gratulabunda, Pelexia maculata, Catasetum Lemosii, Saccolabium longicalcaratum, and various other Orchids, some of **which are seldom met with in private collections.**

We are glad to find that more attention is being paid to these so-called botanical Orchids. We know of several collections where more attention is being paid to them than was formerly the case, and there are so many which are quite as interesting as their more showy brethren, and also as easily

grown and as floriferous, besides taking up less space. They introduce variety into the collection, and those who saw the splendid collection exhibited by Sir Trevor Lawrence at the Temple Show will be able to realise how deserving of cultvation the best of them are. They should be grown on into good-sized clumps, in order to get the best results, and it is only when thus grown one can form an idea what they are really capable of.

A FRAUD IN THE ORCHID TRADE.

Amongst all the Orchids imported to England, probably the most popular, as well as the most extensively cultivated, is Odontoglossum crispum. Every year many thousands of this plant are imported from Colombia for the English market. It is no secret that the most famous type is that of Pacho, and this is becoming more and more scarce, and consequently more expensive to collect in its native habitat. When it is mentioned that the Pacho type is the most prized, it should be stated that inferior types are procurable in great abundance other than in the Pacho region. Thus the inferior types abound at a distance of two or three days' journey from the Pacho centre. In England there are some expert O. crispum growers, who can, as a rule, distinguish the Pacho forms from the worthless forms: but even experts are sometimes at a loss to distinguish the legitimate Pacho forms when they are exposed in the market for sale as imported—*i.e.*, plants with bulbs devoid of leaves. When experts are puzzled, the ordinary purchaser at sale-rooms is, of course, easily duped. Forms or types of the plants are thus frequently bought that are not worth growing. Not only worthless forms are in this way acquired, but thousands of plants come to England under the pseudonym of O. crispum that turn out, after being cultivated for a lengthened time, with attendant expense, not even inferior forms of O. crispum, but O. Lindleyanum, &c., plants that are subsequently consigned to the rubbish-heap.

This year a new departure in the O. crispum trade has sprung up: scores of thousands are being exported from Colombia. The vast majority of the plants thus obtained come from regions whence only the worst known types of O. crispum come; amongst them a large intermixture of O. Lindleyanum, &c. But this is not all. These despised types of O. crispum, &c., are conveyed several days' journey on mules' backs to Pacho, in order to pack them there, and to label each case with the name of "Pacho." - Criterion, in *Gard. Chron.*, May 30th, p. 674.

A GROUP OF HABENARIAS.

Our present illustration shows a pretty little group of Habenarias, reproduced from a photograph taken in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, by Mr. G. F'Anson, and indicates how effective they are when well grown. The upper central figure shows the remarkable H. Susannæ, on either side of which stands a plant of the brilliant H. militaris, while in front are three plants of the equally beautiful H. carnea. The first named, being a tall grower, has been stood down behind, so as to bring the flowers within the picture, while the three

Fig. 10.—Habenaria Susannæ.

Fig. 11.—H. militaris. Fig. 12.—H. carnea.

latter are also lowered so that the leaves are omitted. Knowing the colours of these charming little plants our readers can picture to themselves what the group was like in the living state.

Habenaria Susannæ (Fig. 10) is a well-known Indian species, which has been known ever since the time of Linnæus, who called it Orchis Susannæ. It has appeared in cultivation on several occasions, and was figured at t. 3374 of the *Botanical Magazine*, though it has never taken

that permanent position in collections to which its beauty entitles it, probably on account of the difficulty of bringing it safely through the resting season. If this difficulty can be surmounted it ought to be more widely cultivated, for its beauty is undoubted, and in August, 1894, it received a First-class Certificate from the Royal Horticultural Society. Major-General Berkeley thus speaks of it in our second volume (p. 330):—"I have seen whole beds of it in flower in Moulmein, and I can only suppose that difficulty of transport prevented collectors from bringing it home. . . . I have met with it both in India and Burmah, and it was always a great delight to come across a group of it. It is found in very warm, sheltered, moist places. It is too soft and succulent a plant to grow under any other conditions, and should do well in a shady corner in the stove. The flowers are not always pure white, I have found spikes of it with a dash of green, but all the varieties are beautiful." It is rather widely diffused, being found in North and South India, South China, and in some of the Malay islands. It grows from two to four feet high, and sometimes bears as many as five flowers; from which it will be seen that our figure fails to do it full justice. The remarkable fringed side lobes of the lip and the long spur are well shown in the illustration. Now that the culture of some of these tropical Habenarias is better understood, we hope to meet with it more frequently in collections.

H. MILITARIS (Fig. 11) is a brilliantly-coloured species, which was originally discovered in the mountains of Phu Quoq, in Cambodia, by M. Godefroy Lebeuf. It was described by Reichenbach in 1878, from a dried specimen, under the name of Habenaria pusilla (*Otia Bot. Hamb.*, p. 33). Very little appears to have been known about it then, as nothing is said about its brilliant colours. M. A. Regnier afterwards obtained it from Cochin China, probably from the mountainous region of Tay-Ninh, and in 1886 he sent a living plant in flower to Reichenbach, who recognised it as H. pusilla, but considering that name altogether inappropriate, he re-named the species H. militaris, in allusion to the brilliant scarlet lip, resembling a soldier's jacket. The plants here represented are rather dwarf, as it often attains a height of over a foot; but it will be observed that only a few of the lower flowers are expanded. It is too well known to require further description, but we may add that in October, 1893, Sir Trevor Lawrence was awarded a Silver Flora Medal for a fine pan of it, over two feet in diameter, containing a number of very fine plants. The method of culture so successfully practised by Mr. White was given in full in our first volume (pp. 83-85), to which we refer our readers for details.

H. CARNEA (Fig. 12) is a native of Perak, where it grows on limestone rocks, and was sent home by Mr. C. H. Curtis, of the Forest Department there. It flowered at Kew and with Messrs. James Veitch & Sons, of

Chelsea, in 1892. Though quite different from the preceding, it is an equally charming plant, and in October, 1893, Messrs. Sander received a First-class Certificate for it. The flowers are large and of a beautiful light flesh pink, while the leaves are spotted with white on a ground-colour which may be described as grey, suffused with pinkish brown of an almost indescribable shade. The eye-like spots seen in the figure are simply openings between the lobes, which enable the dark background to show through. It succeeds very well under the treatment given to Habenarias. There is a white-flowered form called variety nivosa, for which Messrs. W. L. Lewis & Co., of Southgate, received an Award of Merit in July, 1894. The leaves are also green and unspotted, but in other respects it fully agrees with the type.

RENANTHERA STORIEI.

THIS splendid Philippine Renanthera has just flowered in the rich collection of Sir Trevor Lawrence, Bart., bearing a large panicle with four branches and forty flowers. It is allied to the brilliant R. coccinea, but has larger flowers of different shape, marbled with two shades of the richest velvet crimson. It was described by Reichenbach in 1880 (*Gard. Chron.*, 1880, XIV., p. 296) from materials sent by Mr. J. G. Storie to Messrs. Hugh Low & Co., and in a subsequent note it was pointed out that Mr. H. T. Brown had also obtained it on a small island, when on an excursion from his residence at Tayabas, in the Philippines (*Gard. Chron.*, 1881, XVI., p. 364.) Some time ago it flowered with Messrs. B. S. Williams & Son, and was figured in the *Orchid Album* (XI., t. 513), which, however, shows the ground-colour much more yellow than in the one exhibited by Sir Trevor Lawrence at the last meeting of the Royal Horticultural Society. It is a very handsome species, but unfortunately, like R. coccinea, does not seem inclined to flower until the plant gets a good size.

NOVELTIES.

COELOGYNE LAUTERBACHIANA, Kranzl.—A species from New Guinea, which flowered in the Berlin Botanic Garden in April last. It is allied to C. carnea, Hook. f., and has small salmon-coloured flowers.—*Notizbl. K. Bot. Gart. Berlin*, 1896, p. 113.

SOBRALIA BRANDTII, Kranzl.—A species allied to S. macrantha, which flowered in the collection of Mrs. Brandt, of Zurich. It was introduced by Messrs. F. Sander & Co., but the habitat is not recorded. The flowers are smaller than in S. macrantha, and rose-purple, with the disc of the lip orange-coloured, and bearing five slightly elevated lines.—*Gard. Chron.*, May 16, p. 608.

ONCIDIUM GODSEFFIANUM, Kranzl.—A species much like O. pubes. Lindl., in general character, but differing in having smaller flowers with the lateral sepals free, and thus should be compared with O. fimbriatum. Lindl., which the author does not mention. It flowered with Messrs. Sander in May last.—*Gard. Chron.*, June 20, p. 754.

CŒLOGYNE UNIFLORA.

WITH respect to the abolition of the genus Panisea, proposed by Dr. Kränzlin (*Gard. Chron.*, April 25, p. 516), after an examination of P. uniflora, Lindl., it should be pointed out the plant is not a Panisea at all, but a true Cœlogyne, as was long ago pointed out by Bentham. The true Paniseas, which Dr. Kränzlin admits not having examined, are at all events sufficiently different from Cœlogyne uniflora, which I have seen flowering every season for many years. The assertion that "Lindley unfortunately relinquished his sagacious method of showing Orchids" is easily disproved by an examination of his *Folia Orchidacea*, which certainly *does* contain the result of ripened and elaborate studies. One has only to compare his revision of the genera Oncidium and Epidendrum with his earlier sketches in the *Botanical Register* to see that, to say nothing of the difficult genera Pleurothallis and Stelis. The fact is, his work was progressive in the best sense of the word, right up to the last. It is unfortunate that Reichenbach never learnt his sagacious methods.

R. A. R.

CALENDAR OF OPERATIONS FOR JULY.

By H. A. BURBERRY, Highbury, Moor Green, Birmingham.

THE temperatures in all departments must still remain as advised in the Calendar for May.

The season so far has been a particularly hot, dry, and fast one. If, therefore, Orchid growers find themselves behind hand with their potting operations, small blame to them. Weather such as we have been having, although it may be known only to those directly concerned, causes an enormous amount of extra work; and by the time the watering, damping, airing, shading, cleaning, and the hundred-and-one other little jobs are done which are found necessary to continually keep the temperature and atmosphere well balanced and suitable for healthy growth, a great inroad has been made upon one's time and energies.

During such hot, fast seasons, things seem to me to get topsy-turvy in some way. Nothing seems to bide its proper time to flower and grow, but pops out upon you before you are ready to attend to it; consequently, I

am afraid that it frequently happens that something or another has to be left undone or unattended to, and such a state of affairs is, of course, far from being satisfactory. But what is to be done? One does not like to pull a plant about when the proper time for so doing has long since passed, and we all know that in order to pot a plant well it is necessary to pull the roots about a good deal. We must never pot badly or carelessly. We must never insert an old basket, or pot, or pan within another, in order to spare the roots from being disturbed. No: when repotting is done, let it be done thoroughly well; otherwise let it alone. If it should happen that time is scarce, or that the season for potting has long past, then, should a plant appear to be in a fair condition, and likely to pull through another season without serious results following, let it stand over till another year rather than half do it or do it at the wrong season. What can't be cured must be endured.

Whatever else has to be left undone, see well to the most important points, namely, ventilation, and moisture in the atmosphere by damping down the floors and by spraying the plants overhead in all departments two or three times during the hottest part of the day. Also keep the plants free from insect pests by fumigating occasionally with XL.All insecticide as soon as ever signs of thrip or aphis are observed. Under these conditions the plants will not go far wrong if they otherwise have to rough it. There is another matter of some importance, which, if given attention, will perhaps help the cultivator to some extent. It is everything to an Orchid to be in the position it likes. Do not therefore keep a plant in the same position too long if it fails to grow there satisfactorily. Once a plant finds a position it likes it will then luxuriate, and give not nearly so much trouble and worry. Position, in fact, should not be under-estimated, for it is of more real importance to the cultivator than is generally supposed for the successful cultivation and flowering of Orchids. It is surprising what a large number of different Orchids will thrive perfectly well in one small amateur's house if the matter of finding suitable places is studied and carried out. I have even grown some of the short-bulbed Mexican Lælias, such as L. anceps and L. autumnalis, very well in a house where cool Odontoglossums and Oncidiums have been growing and doing well, by suspending them in a place where they had plenty of sunshine through a division between two blinds caused by their not meeting: also Pleiones, Thunias, and many of the Cattleyas did very well in a like position, and some Dendrobiums, too, including D. Wardianum and D. nobile. But let it not be understood that I recommend the same house for the whole of these species; far from it. I merely mention the fact just to illustrate what can, or could, be done. And how one could amuse and instruct himself having one house for Orchids only, supposing he had the patience

and time at his disposal, which would be necessary at first to ensure success.

Something about manuring Orchids is doubtless looked for, and rightly so, in the Calendar of Operations, which is above all things practical, and written for the guidance of all who may desire it. I have from time to time advised manure in a weak liquid state for certain species, such as Calanthes, and Cœlogynes, and some few others, which from practice I have found did them no harm, but, on the other hand, seemed to do them good for a time. But I have never been very loquacious on this matter of manuring Orchids, for I have never fully believed in it, and yet have never openly flouted the idea. Like many others, I have sometimes thought that manurial aid might possibly be of assistance, if once the proper proportion and the proper way of applying it was fully understood. Now I am determined to shelve manure in every shape and form, for, so far as I am concerned, my conclusion is that manure is not permanently beneficial: I don't believe I shall ever use another drop of manure, not even on those species which I have previously enumerated as manure takers. I am certain that in the long run manure does more harm than good, and that the plants are better without it, and that it is the cause of much mischief which is attributed to other causes.

Having said this much I feel relieved, for I should indeed be sorry for any cultivator to think that I recommend manure. On the other hand, I now believe that an Orchid which receives it is apt to go wrong at any time. Things have happened that make me think there is no certainty about them; that you cannot depend upon them, and that they are liable to disease at any moment, which will carry them off like the snuff of a candle. Plants that are here to-day and gone to-morrow are, to say the least, most undesirable. It is better to go on slowly but surely; to be satisfied with slower and smaller new growths, well ripened, and matured by the admission of plenty of fresh air, which I believe is, after all, the best possible manure, and the only natural one for Orchids. Plants so nurtured are bound to make their mark in time: all that is required is patience.

We must endeavour, if possible, to get the greater part of the repotting finished in the Cattleya and Intermediate houses this month. I never like repotting Cattleyas much later, as it leaves such a short time before the dull weather sets in upon us, for them to recover sufficiently to pass through the winter safely. Sobralias should be repotted as soon as the flowering season is past. Good turfy strong loam, mixed with broken charcoal and sand, suits them admirably. They should be potted firmly. Once strongly established, they are of most easy growth, and give but little trouble. They make a large quantity of thick fleshy roots, and must therefore have pots, or pans, of a reasonable size to contain them.

When repotting, it is not advisable to disturb the old ball of roots more than is really necessary, for if pulled about very much a great check is given. Sobralias delight in Intermediate or Cattleya house temperature, and in a moderate supply of water the whole year round, as they have no special resting period.

Odontoglossum Schlieperianum and the rare O. Williamsii are now flowering, and will afterwards commence to grow, when they also should be repotted. They are very pretty Orchids when strong, but from small weakly pseudobulbs the spikes are spindly and the flowers insignificant, and therefore should not be allowed to flower till the plants are strong. **The Intermediate house is the best place for them.**

The summer flowering Cypripediums, such as C. Stonei, C. Lawrenceanum, C. barbatum, and C. Godefroyæ, should also receive attention when flowering is past. The section to which the last-named species belong is not of easy management, unless the plants happen to get a position that suits them. A few weeks ago I saw one growing, and growing like mad, in what seemed to me to be a most unlikely place. It was suspended over a water tank, a good distance from the glass, and in a not by any means light position, in fact, a very shady one. It is worth a trial. For this section, stiff fibrous loam intermixed with small lumps of chalk is **the best compost that I know of.**

The inmates of the East Indian house are now growing apace, and must not lack moisture. The deciduous Calanthes are getting well rooted, and may receive more water at the roots. Phalænopses are pushing up good leaves and making plenty of young roots: this is a good season to pick out the old decayed sphagnum moss and replace it with new, but care must be taken that the roots are not disturbed in the slightest. The Dendrobiums, too, are growing well. When the new growths are well up, and have a good number of new roots, rather than keep the compost too soddened with water, it is a good plan to keep it drier, making up for it by getting the syringe well in among them two or three times daily when the days are bright and hot. The plants like it, and it is one of the best means to keep down red spider, which must not on any account be allowed to prosper. If the house is as well and freely ventilated during such splendid summer weather as we are now getting as it ought to be, the casualties of the new growths damping off will be but few with the majority of species. But with D. Bensoni and D. superbum you have to be very careful when syringing not to let the water get down into the axils, for they are much given to damping off. I find it is best for this department, and always keep, if possible, a slight warmth in the hot water pipes during the night, so that air both top and bottom can be left on all through the night. We cannot grow Orchids well without air: it is the life and soul of them. To shut the

Dendrobiums up in a close house, so as to keep the temperature warm the whole night, in order to spare lighting the fire, is a source of danger, and many growths invariably damp off.

Cattleyas Warneri and C. Warscewiczii (gigas) are now commencing to flower, after which new roots will commence to push from the base of the new pseudobulb; then is the best time to re-pot them. Do not expose them too much to the sun for a few weeks afterwards, nor keep them too dry: but they must be placed in a department where they receive plenty of air and are kept pretty cool, or they will start to make second growths, which is always well to avoid, if possible. In spite of one's utmost endeavours a small number of them are almost sure to break again, which cannot be helped, and which need cause no alarm; give such plants exactly similar treatment to those quite dormant. When an Orchid, say a Cattleya or a Dendrobium, or a Thunia, or anything else, has completed its growth, it is a great and ofttimes fatal mistake to withhold water too suddenly. The plants very quickly shrivel up, causing immature growth and other evils. The watering of the roots must go on as usual for some time, but the plants should be removed to a place where they may receive more air and light. Trust to air both night and day, to assist in preventing second growth and to thoroughly ripen the pseudobulbs, but do not withhold water at the same time; the strain is too great. The other Cattleyas and Lælias will now be actively growing, and should be well attended to, spraying them overhead occasionally, especially early in the afternoon when the shading is removed and the ventilation is reduced. The houses should be damped down at least three times daily, and air admitted freely.

We try to keep the Cool house as cool as we can. The ventilators are opened as widely as possible, and remain so. With this air it is impossible to damp the surroundings too often. This treatment the plants enjoy. Sophronitis grandiflora is now starting to grow again, after having had a short rest since flowering. It succeeds best in small pans suspended, but is not a sun-loving species. Now is a good time to do what is required in the way of re-panning or top dressing. Lælia præstans and L. Dayana are also starting to grow, and should likewise be attended to. These are also best grown in baskets, or pans, suspended, and should occupy a warm position at the warmest end of the house. They delight in a good long rest during the the winter. Lælia harpophylla is another that does well in this department if given a like position, as also does L. monophylla, which is a quaint little Orchid. This latter species prefers to be kept moist the whole year round, and should be grown in very small pans or baskets. Oncidium tigrinum is now pushing up new growths, and may be repotted. I prefer to grow this beautiful Orchid in pots under exactly the same treatment as the Odontoglossum crispums enjoy. Like many other cool Orchids, it is often injured

by being kept too wet at the roots. Orchids do not require to be kept so wet as is sometimes supposed; it rots the compost and kills the roots, and what follows it is needless to say. When water is applied with moderation during the time the plants are growing, and they are kept on the dry side when inactive, repotting in many instances is really not necessary more than once in two or three years with these cool and intermediate species, and they are better if not pulled about for the purpose of repotting too often.

Masdevallias that require a shift should be done this month. Peat and sphagnum moss in equal parts is the best compost. The peat need not be of the best fibrous nature for these, but it should be lumpy, so that the water passes away quickly. They are best managed, and are much more certain to produce a large amount of flower spikes, if grown in small pots. 32's are a convenient size for them. Like all other cool growing Orchids, the weather is rather too hot just now for this genus, but no harm can be done them if kept well shaded, and the ventilators and doors thrown open wide. Cool Orchids are injured by heat during summer only when they are kept too close. During winter they suffer from the effect of excessive cold also by the same means.

ORCHID PORTRAITS.

ANGRÆCUM FOURNIERÆ, ANDRE.—*Rev. Hort.*, June 1. p. 256, with fig. This is A. stylosum, Rolfe.

CATTLEYA MOSSIÆ VAR. BEATRICE.—*Gard. Mag.*, June 20. p. 406, with fig.

CŒLOGYNE VEITCHII, Rolfe.—*Wien Ill. Gart.-Zeit.*, May. pp. 187. 189, fig. 24.

CYCNOCHES CHLOROCHILON.—*The Garden*, May 30, p. 403. with fig.

CYPRIPEDIUM × RIDOLFIANUM, Pucci.—*Bull. Soc. Tosc. Ort.*, March. p. 144, t. 4.

DENDROBIUM FINDLAYANUM.—*The Garden*, June 13. p. 446, t. 1070.

HABENARIA ELWESII, Hook. f.—*Bot. Mag.*, t. 7478.

LÆLIA × ELEGANS VAR. TURNERI.—*The Garden*, May 23, p. 384. t. 1067.

LÆLIO-CATTLEYA × PYTHO.—*Journ. Hort.*, June 26, pp. 579. 588, fig. 102.

MILTONIA VEXILLARIA VAR. "MEMORIA G. D. OWEN."—*Journ. Hort.*, June 11, p. 537, fig. 88; *Gard. Mag.*, June 13, p. 386, with fig.; *Gard. Chron.*, June 20, p. 755.

SACCOLABIUM AMPULLACEUM.—*Journ. Hort.*, May 21, pp. 461, 463, fig. 76.

THE MANCHESTER SHOW.

THE annual Whitsuntide Show of the Manchester Royal Botanical and Horticultural Society was held at the Gardens, Old Trafford, from May 21st to 27th, when Orchids were exhibited in large numbers, the Show House being, as usual, nearly filled with them, making a brilliant display.

The first prize for a collection of Orchids in bloom, limited to amateurs, was secured by E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), with a rich and varied group, containing, among other things, many good forms of Lælia purpurata, L. tenebrosa, Cattleya × calummata, the fine C. Lueddemanniana nobilior, some good C. Schrœderæ, Mendelii, Mossiæ and others, many good Odontoglossum crispum and Miltonia vexillaria, Schomburgkia tibicinis, Dendrobium Dearei and others, various Cypripediums, &c.

F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr. Mr. Stafford), was second with a fine group, including some good Dendrobium pulchellum (Dalhousieanum), D. thyrsiflorum, D. fimbriatum oculatum, Diacrium bicornutum, Cypripedium bellatum, a fine dark form of C. villosum, and a good selection of the usual showy Cattleyas, Odontoglossums, &c.

A group exhibited by S. Hincheliffe, Esq., Hale, Altrincham, included Anguloa Clowesii, Cattleya Schilleriana, Oncidium sphacelatum and others, with some good Cattleyas, Lælias, &c.

In the Nurserymen's class, Mr. James Cypher, Cheltenham, was first with a splendid group, including some fine Lælia purpurata, Cattleya Skinneri, and other showy forms, Oncidium concolor, O. macranthum and O. serratum, Vanda suavis, Epidendrum × O'Brienianum, some good Cypripediums, &c. The group was very effectively arranged.

Messrs. Heath & Son, of Cheltenham, were third with a group in which were some good Miltonia vexillaria, together with Cattleya Skinneri, Aerides crassifolium, Odontoglossum citrosmum, &c.

Mr. John Kitson, of Bowden, secured the second prize with a good group, containing some good Cattleya Warneri, a very fine C. Mossiæ Epidendrum vitellinum, Dendrobium × Cassiope, Odontoglossum crispum Selenipedium × grande atratum, &c.

For the best collection of Cattleyas and Lælias the first prize went to T. Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson), with a very fine lot, including Cattleya Mendelii leucoglossa, Lælia grandis, some very fine Lælia purpurata, Lælio-cattleya × Pallas superba, &c.

The second prize went to F. Hardy, Esq., whose group contained a brilliant Cattleya Schrœderiana, C. Skinneri alba, C. dolosa, C. Schilleriana, C. Mendelii Venus, a beautiful Lælia purpurata Schrœderæ, and others.

For the best collection of Cypripediums in bloom the first prize went to

E. Ashworth, Esq., who exhibited a large group, including the beautiful C. bellatulum album, and some fine forms of C. Chamberlainianum. T. Statter, Esq., took the second prize, C. philippinense and C. × Gertrude Hollington being noteworthy. F. Hardy, Esq., was third, among his best plants being C. Lawrenceanum Hyeanum, C. Druryi, and Selenipedium × leucorrhodum.

For the best collection of Dendrobiums in bloom Mr. J. Cypher was first, and E. Ashworth, Esq., a good second.

For the best collection of Odontoglossums, F. Hardy, Esq., took premier honours, his group containing some good O. Harryanum, O. crispum, and O. × Andersonianum, among others. Mr. John Robson was second, and staged some good O. crispum, Miltonia Roezlii, &c.

In the Nurserymen's class of the best Orchid in bloom, Messrs. Heath were the only exhibitors, and took the first prize with a well-grown plant of Lælia purpurata.

Among the Orchids staged not for competition was a splendid group from Messrs. F. Sander & Co., St. Albans, which received the award of a large Gold Medal. It contained a fine specimen of Cattleya Mossiæ Reineckeana, with other forms of this species, C. Mendelii, some good forms of Lælia purpurata, Cypripedium Rothschildianum, Stenoglottis longifolia with erect spikes of purple flowers, Oncidium varicosum Rogersii, various forms of Odontoglossum crispum, Epidendrum atropurpureum Randii, Dendrobium Bensonæ, some good Miltonia vexillaria, &c.

Messrs. Charlesworth & Co., Heaton, Bradford, exhibited a choice group, containing several good forms of Lælia purpurata and Cattleya Mossiæ, a good C. Schilleriana, some fine forms of Odontoglossum crispum, and other good Orchids.

Messrs. John Cowan & Co., Garston, near Liverpool, had a fine group, containing some good Cattleya Mossiæ, including C. M. Reineckeana, a fine C. × Harrisii, Cœlogyne pandurata, Dendrobium thyrsiflorum and D. superbum, fine specimens of Brassia verrucosa, Aërides crassifolium, &c.

A. Warburton, Esq., Vine House, Haslingden, sent an exceptionally fine form of Cypripedium × Gertrude Hollington.

C. Dibb, Esq. (gr. Mr. Brindrett), exhibited a Cattleya Mendelii with three fine spikes, one of which carried six flowers, which had been grown in a greenhouse for the last seven years, and the pot was one mass of roots, showing that it had not been potted for a long period.

Messrs. B. S. Williams & Son staged some good Cattleyas and Lælias in a miscellaneous collection, also Odontoglossum × Wilckeanum, &c.

Mr. H. J. Chapman, of Camberwell, exhibited a good collection of dried Orchids, in which the colours were very well preserved.

First-class Certificates were awarded to the following plants :—

Odontoglossum crispum Warburtonianum, Odontoglossum Charlesworthianum, and Cypripedium × Cowleyanum Annie Louise, exhibited by Charlesworth & Co.; Cattleya Mendelii Countess of Derby, Cattleya Mossiæ Her Majesty, Lælia purpurata alboviolacea, Lælia purpurata Distinction, Miltonia vexillaria leucoglossa, and Stenoglottis longifolia, exhibited by Messrs. Sander & Co.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THE display of Orchids at the Drill Hall, James' Street, Westminster, on June 9th last, was a magnificent one, both in the extent and in the quality of the exhibits.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), sent a small group of choice things, to which a Silver Flora Medal was given. It contained fine specimens of Lælia grandiflora (majalis), Sobralia xantholeuca, the pure white S. macrantha Kienastiana, the remarkable Cypripedium Stonei platytænium, two handsome forms of Lælio-cattleya × Canhamiana, Miltonia vexillaria gigantea and M. v. radiata in well-flowered examples, half-a-dozen splendid forms of Odontoglossum crispum, and others.

H. T. Pitt, Esq., Rosslyn, Stoke Newington (gr. Mr. Aldous), received a Silver Flora Medal for a splendid group, containing some excellent forms of Cattleya Mossiæ and Lælia purpurata, together with Phaius × Owenianus, Anguloa Clowesii, Oncidium phymatochilum, Vanda Denisoniana, Cœlogyne pandurata, Odontoglossums, Cypripediums, &c.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a most interesting and pretty group, to which a Silver Banksian Medal was given. It contained Thunia Brymeriana and the pure white T. candidissima, Luisia Amesiana, Dendrobium bracteosum, D. aduncum, Lælia tenebrosa, Lælio-cattleya × Arnoldiana, Bulbophyllum Lobbii, Epidendrum Brassavola, E. prismatocarpum, Pleurothallis Grobyi, some good Masdevallia Harryana, and others, including M. triaristella, simula, guttulata, Rolfeana, and others. Botanical Certificates were given to Saccalobium miniatum and Epidendrum fragrans.

Welbore S. Ellis, Esq., Hazelbourne, Dorking (gr. Mr. Masterton), received a Silver Banksian Medal for a group of good forms of Odontoglossum crispum, one of which, called O. c. Lord Sherborne, received an Award of Merit. It is allied to O. c. guttatum.

The Hon. Walter Rothschild, Tring Park (gr. Mr. Hill), showed some good examples of Spathoglottis Lobbii and S. Kimballiana, Catasetum × splendens leucanthum, a fine creamy white form, which received an Award of Merit, and a species of Chondrorhyncha from Costa Rica, with greenish

white flowers, to which a Botanical Certificate was given. It has since been named C. albicans, Rolfe.

Sir Frederick Wigan, Clare Lawn, East Sheen (gr. Mr. Young), received a First-class Certificate for a splendid form of Miltonia vexillaria, called "Memoria G. D. Owen," approaching M. v. Leopoldi. He also showed two fine forms of Cattleya Mossiæ, one of which was like var. Reineckeana with slate-coloured marbling in front of the lip.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), sent Lælio-Cattleya × Regalis (L. purpurata ♀ × C. Mendelii ♂) and L.-c. × Regalis nigra, L.-c. × Electra (C. Percivaliana ♀ × L. purpurata ♂), and L.-c. × Pytho (L.-c. × elegans Turneri ♀ × C. Loddigesii ♂), the latter receiving an Award of Merit.

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howe), showed a fine Cattleya Mossiæ Wageneri.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), sent two very fine forms of Odontoglossum crispum.

Holbrook Gaskell, Esq., Woolton Wood, Liverpool, sent Cypripedium × Ledouxiæ.

Captain T. A. Julian, Plymouth, sent a fine Cattleya Mossiæ.

F. W. Moore, Esq., Royal Botanic Garden, Glasnevin, sent the rare Masdevalla fragrans.

Sir Charles Strickland, Bart., Hildenley, Malton (gr. Mr. Smith), sent flowers of a pretty hybrid between Cypripedium bellatulum ♀ and C. concolor ♂, showing some little variation in the markings.

T. W. Swinburne, Esq., Corndean Hall, Winchcombe, sent some good forms of Cypripedium bellatulum, and other Orchids.

A. Warburton, Esq., Vine House, Haslingden, sent a beautiful form of Lælia tenebrosa, very near the one known as Walton Grange variety.

Messrs. James Veitch & Sons, Chelsea, staged a splendid group, to which a Silver Flora Medal was awarded. It contained a fine specimen of Dendrobium thyrsiflorum Walkerianum, D. Dearei, various forms of Lælia tenebrosa, L. purpurata and Cattleya Mossiæ, C. citrina, and others; two fine pans of Disa × kewensis and D. × langleyensis, Epidendrum vitellinum, E. aromaticum, Lælio-cattleya × Hippolyta, L.-c. × Zephyra, L.-c. × Canhamiana, Cypripedium bellatulum, C. Curtisii, Selenipedium × Clonius, Odontoglossums, and other showy Orchids.

Messrs. Hugh Low & Co., Upper Clapton, also received a Silver Flora Medal for another fine group, containing some very fine forms of Cattleya Mossiæ, and among them the beautiful C. M. Reineckeana, C. × intricata maculata, Lælia tenebrosa, Lælio-cattleya × Schilleriana, Bulbophyllum Dearei, Epidendrum Godseffianum, Cypripedium Curtisii, C. bellatulum, and various other good things.

Messrs. F. Sander & Co., St. Albans, staged a large and handsome group, to which a Silver Flora Medal was also given. It contained Phaius × Owenianus, Sobralia × Amesiæ, S. × Veitchii, Aërides Houlletianum Physosiphon Loddigesii, Cirrhopetalum picturatum, Disa × Premier, Maxillaria nervosa, Dendrobium crystallinum, Odontoglossum Harryanum and others, Lælio-cattleya × Arnoldiana and L.-c. × Mardelii (C. Lueddemanniana ♀ × L.-c. × elegans ♂), a very pretty hybrid, which had previously been raised by Messrs. Veitch, and now received an Award of Merit. Botanical Certificates were also awarded to Pleurothallis tribuloides, and Peristeria aspersa.

Messrs. B. S. Williams & Son, Upper Holloway, received a Silver Banksian Medal for a good group, in which were Cattleya Warneri, Oncidium Marshallianum, Aërides odoratum, Vanda tricolor and V. concolor, Denbrobium × polyphlebium, and some good Odontoglossums, Cypripediums, Cattleyas, Dendrobiums, &c.

Messrs. W. L. Lewis & Co., Southgate, also contributed an effective group, to which a Bronze Banksian Medal was given. It contained some good forms of Cattleya Mossiæ and C. Mendelii, C. citrina, the handsome Cypripedium × Gertrude Hollington, C. × Hobsoni, some good Odontoglossums, Oncidiums, &c. A Botanical Certificate was given to a very pretty little plant exhibited as a Pogonia, which has since been named Hemipilia amethystina, Rolfe. It bore a single cordate leaf, prettily marbled with green and brown, lying flat on the soil, and an erect raceme of about a score white and amethyst-purple flowers.

Mr. J. Keeling, Mount View Gardens, Glossop Road, Sheffield, sent a pretty hybrid Cypripedium derived from C. bellatulum and C. concolor, similar to those exhibited by Sir C. Strickland.

At the meeting held on June 23rd the show of Orchids was considerably less than usual, though about up to the average for the season, as there is invariably a falling off of the exhibits about Midsummer. Several remarkable ones, however, were staged, particularly the beautiful dark crimson Renanthera Storiei with darker marbled flowers, which was exhibited both by Sir Trevor Lawrence and by W. J. Thompson, Esq., of Ghyllbank, St Helens.

Sir Trevor Lawrence, Burford, Dorking (gr. Mr. White), exhibited a fine group, to which a Silver Flora Medal was given. It contained a fine specimen of Rhynchostylis retusa (Saccolabium guttatum) with twelve spikes; a very handsome light form of Miltonia vexillaria with six spikes; a fine example of Catasetum Bungerothii; the rich mauve-crimson coloured Epidendrum Frederici-Guilelmi; and the singular looking Epidendrum variegatum: Aerides multiflorum Lobbii; Dendrobium crystallinum gigan-teum; the handsome Renanthera Storiei above mentioned, &c. A fine

plant of Cypripedium superbiens with nine flowers received a First-class Certificate, and a profusely-flowered plant of the pretty light yellow **Cirrhopetalum nutans a Botanical Certificate.**

The Duke of Sutherland, Trentham (gr. Mr. Blanc), was awarded a Silver Banksian Medal for Odontoglossum crispum "Duke of Sutherland" one of the finest ever exhibited, both for the excellence of its large pure six formed white flowers, and also for the noble size of the plant. It was one of the earliest importations, made something like twenty-five years ago, and its splendid culture reflects great credit on Mr. Blanc who has had it under **his care for a very long time.**

W. S. Ellis, Esq., Hazelbourne, Dorking (gr. Mr. Masterton), showed a small group, containing a good specimen of Cattleya Warscewiczii, a well flowered Lycaste Deppei; and several fine plants of Odontoglossum crispum. O. crispum virginale was a pure white form with chrome yellow and orange disc to the lip: and O. c. guttatum, a very prettily spotted variety. **The group received a Vote of Thanks.**

Walter C. Walker, Esq., Percy Lodge, Winchmore Hill (gr. Mr. Cragg), showed Stanhopea Wardii, Cattleya Warscewiczii var. Claudii, very richly coloured: and another very large light-coloured variety, with cut spikes of Dendrobium suavissimum. Cattleya intermedia, C. granulosa, and the yellow-petalled C. g. Dubuyssonii. **A Vote of Thanks was accorded to the group.**

W. G. Soper, Esq., Harestone, Caterham Valley, showed a plant of Gongora maculata, to which a Botanical Certificate was awarded.

Mr. N. Blandford, Bitterne, Southampton, showed a good Cattleya Warscewiczii.

H. Grinling, Esq., Harrow Weald House, Stanmore (gr. Mr. Rapley), sent Cattleya Warscewiczii imperialis and Dendrobium Parishii.

W. Thompson, Esq., Walton Grange, Stone, Staffordshire (gr. Mr. W. Stevens), sent Lælia tenebrosa gigantea, with unusually large flowers, and rich in colour; and Odontoglossum × Coradinei expansum, also very fine.

W. J. Thompson, Esq., Ghyllbank, St. Helens, sent a fine inflorescence of Renanthera Storiei, with several branches, from a plant which he received from the Philippines.

J. B. Walmsley, Esq., of Liverpool, sent a cut spike of Aërides radicosum album, a very pretty white form of the species.

Sir Frederick Wigan, Clare Lawn, East Sheen (gr. Mr. Young), showed Miltonia vexillaria Chelsonensis, a pretty variety with purple rays **resembling M. v. radiatum.**

Messrs. James Veitch and Son, **Royal Exotic Nursery, Chelsea, received** a Silver Flora Medal for a magnificent group of rare Orchids, which were very effectively arranged. It included Lælio-Cattleya **× Canhamiana alba,**

a noble flower with clear white sepals and petals, and large violet-purple lip; L.-c. × Eudora (L. × purpurata ♀ × C. Mendelii ♂), which must be considered a variety of L.-c. × Aphrodite, from the collection of W. R. Lee, Esq., which secured the first prize for the best hybrid Orchid at Manchester last year. (See p. 219 of our last volume.) If the records are correct the present one arose from the reverse cross. L.-c. × Eudora received an Award of Merit on May 5th last, when exhibited by C. Ingram, Esq., and on June 9th another seedling with the same parentage was exhibited as L.-c. × Regalis, but both must be referred to L.-c. × Aphrodite. The group also contained the handsome L.-c. × eximia, L.-c. × Hippolyta, of rich Indian yellow colour, with ruby lip, the rare and pretty rosy lilac Cattleya Schrœderiana Rchb. f.; fine panfuls of Disa × langleyensis and D. × kewensis, Selenipedium × Brysa, Cypripedium Curtisii, C. ciliolare, C. niveum, C. Volonteanum, Cattleya citrina, Odontoglossum Harryanum and other Odontoglossums, Phalænopsis amabilis, and other good things.

Messrs. F. Sander & Co., St. Albans, had an interesting group, the most remarkable plant in which was Cypripedium × Neptune (C. × Io grande ♀ × C. Rothschildianum ♂), a very bold-looking hybrid of the C. × Massaianum group, with large pale green flower, the petals of which were extended like those of C. Rothschildianum, and finely blotched with purple. It secured an Award of Merit. Other good things in the group were Selenipedium × Uranus (S. Lindleyanum ♀ × S. × grande ♂), somewhat resembling S. Sargentianum; Angræcum Chailluanum, Cirrhopetalum picturatum, Phaius Humblotii, P. × Owenianus, Sobralia × Veitchii, S. × Amesiæ, and S. xantholeuca, some very good Cattleyas, Lælia tenebrosa, Odontoglossum Harryanum and other Odontoglossums, Oncidium triquetrum, Thunia × Veitchii inversa, &c. A Vote of Thanks was accorded to the group.

Messrs Hugh Low and Co. staged several fine varieties of Cattleya Mossiæ, of which C. M. bella was a very distinct form, with almost wholly rich crimson-purple lip; also Dendrobium chlopterum, a New Guinea species, with greenish flowers with a few purple lines. The plant belongs to the group containing D. macrophyllum and D. atroviolaceum, though not equal to them in beauty.

CORRESPONDENCE, &c.

Philo. A good form of Cattleya Warscewiczii, but fairly typical. This species varies less than many others.

G. W. Oncidium crispum.

J. C. Oncidium cheirophorum should be suspended near the glass in the cool house

T. S. Some notes will appear in a future number.

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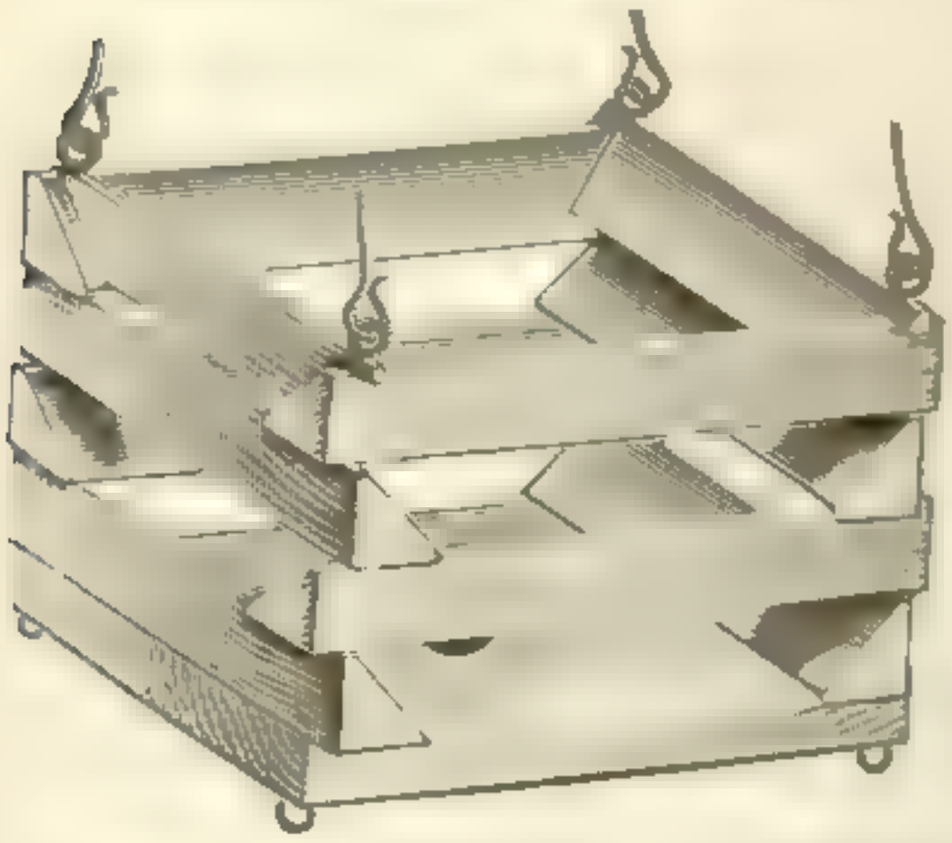

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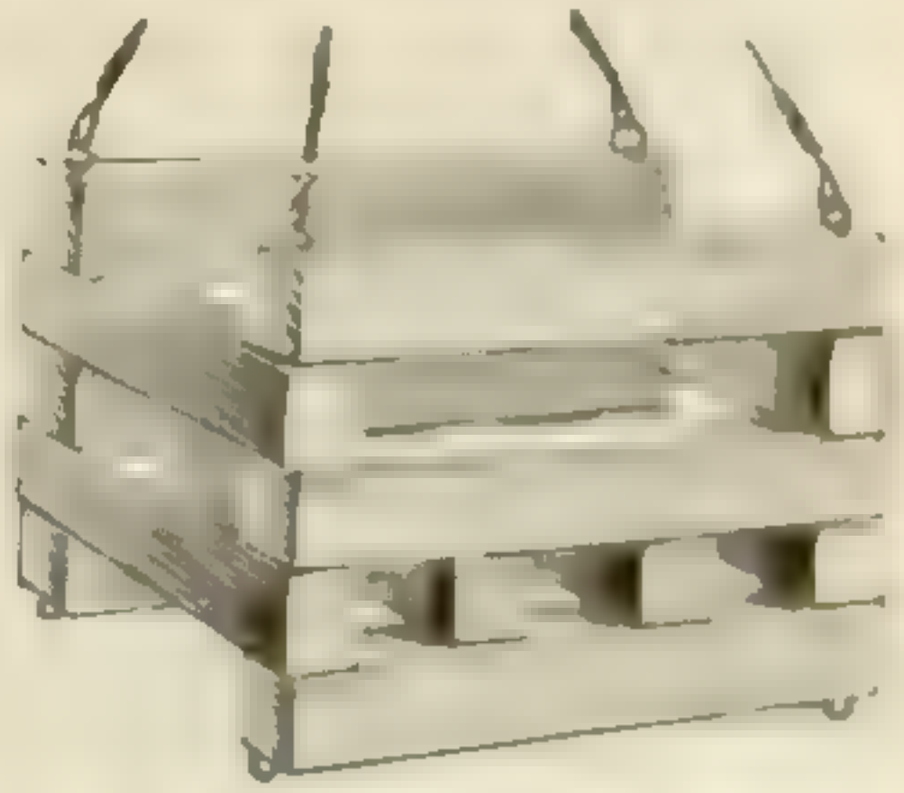

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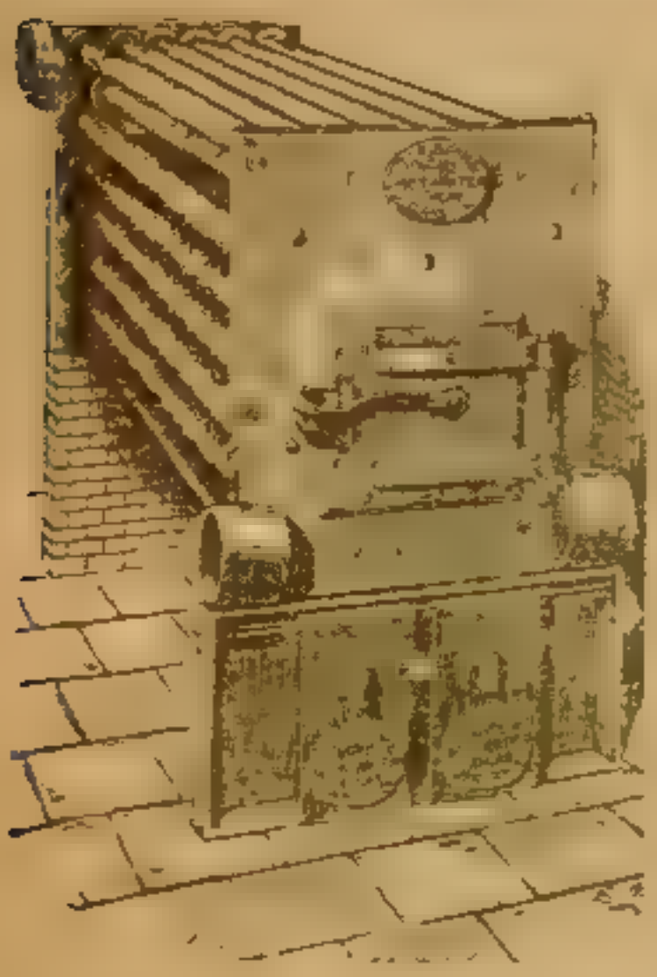

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An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, during August, on the 11th and 25th respectively, when the Orchid Committee will meet at the usual hour of twelve o'clock, noon.

Cattleya Warscewiczii seems to be flowering very well this season, probably because of the fine bright weather, which seems to suit it, as well as others which flower on the completion of the young growth. Three very fine forms have been sent from the collection of H. H. Bolton, Esq., Newchurch, Manchester, one of which has the petals irregularly mottled and streaked with rose-purple on a light ground, corresponding to the variety variegata described at page 278 of our last volume. A second has the two eyes confluent into a single one in the throat, which becomes nearly white in front, the usual lines down the centre being absent, and these peculiarities give the flower a very distinct appearance. The other is typical.

Two other fine forms come from the collection of W. S. M Millar, Esq., of Maghull, near Liverpool, one being a very large light form with the front lobe mottled and irregularly margined with lilac, and the other typical, except that the eyes are nearly white.

A fine form of C. × Hardyana also comes from the same collection, in which the lip is deep velvety crimson, though with only a trace of the golden veining of C. Dowiana aurea, and the eyes as in C. Warscewiczii. The sepals and petals are bright rose.

Good flowers of Cattleya Rex also come from the same collection, and from that of H. H. Bolton, Esq. Both are fairly typical. It is certainly a very handsome Cattleya, though one of the smallest of the labiata group.

Two different forms of Cypripedium Godefroyæ leucochilum have been sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, one having the sepals and petals very heavily marked.

A very fine inflorescence of Odontoglossum citrosmum roseum has been sent from the collection of H. H. Bolton, Esq., Newchurch, Manchester. It differs from the type in having the flowers suffused throughout with light rose-pink, and is very handsome.

A handsome form of Oncidium macranthum comes from the collection of E. H. Woodall, Esq., of Scarborough, in which the sepals are much deeper in colour than usual, being, in fact, quite deep brown, and affording a strong contrast with the yellow petals.

The plant of Cypripedium × Cowleyanum "Annie Louise," which received a First-class Certificate at the Manchester Show, was exhibited by G. W. Law-Schofield, Esq., Rawtenstall, Manchester, not by Messrs. Charlesworth & Co., as stated in our report at p. 220.

A plant of Cattleya Warscewiczii has flowered in the collection of Reginald Young, Esq., Sefton Park, Liverpool, in which the sheath was developed as an ordinary leaf, and thus had the appearance of a diphyllous Cattleya with the sheath absent. An example of both C. labiata and C. Gaskelliana with a diphyllous pseudobulb has also occurred in the same collection.

It is interesting to record that Mr. H. T. Cinkaberry has succeeded in raising some seedling Vandas in the collection of the Hon. C. G. Roebling, of Trenton, New Jersey. This cross is between V. tricolor and V. Sanderiana, the former being the seed parent. Their flowering will be awaited with interest.

A series of three photographs of Phalænopsis Schilleriana has been sent from the collection of Mrs. Martin, Auchendennan, Alexandria, Dumbartonshire, by Mr. W. McHutcheon, the gardener. The group contains twelve plants, and when at their best had 172 blooms expanded at once, the best bearing 72. The six largest plants were sent to Mrs. Martin from Manilla, by a friend, in 1873, and thus have been in cultivation for a long period. They are grown in ordinary 10-inch pots, and have from five to eight leaves, the largest being 18½ inches long by 5 inches broad. One of the spikes is bearing a vigorous young plant with three good leaves below the flowers, and altogether the photographs afford evidence of excellent culture.

A curious example of Oncidium Lanceanum with two flowers fused together has been sent from the collection of R. N. Hooper, Esq., Stanshawes Court, Chipping Sodbury. The peculiarity is occasionally seen in various Orchids.

An inflorescence of Odontoglossum × Coradinei expansum has been sent from the collection of W. Thompson, Esq., Walton Grange, Stoke. It is a very fine form, in which all the segments are unusually broad. A large and handsome form of O. × Wilckeanum with white ground and much toothed petals with a large red-brown blotch near the apex, is also sent.

A photograph of a very curious Gongora has been sent by Mr. T. I. Patter, Port of Spain, Trinidad, showing one pseudobulb growing from the top of another, and the upper one bearing a terminal raceme instead of the axial lateral one. The species is said to be G. maculata, and to have flowered in the collection of a gentleman in the sugar industry.

CYPRIPEDIUM PHILIPPINENSE ABNORMAL.

A SPIKE of four curiously abnormal flowers of Cypripedium philippinense has appeared in the collection of James Davidson, Esq., of Dumfries. In three flowers the lip is entirely wanting, and in the fourth only one side of the same organ is present, attached at one side of the column, and evidently consists of the petaloid staminode A 2. A second flower has one petal entirely adnate to the dorsal sepal, while the other is normal, but a third has both petals similarly adnate, forming curious undulate margins to the said sepal, because the union prevents them elongating, as they do when free. In the other flower the lip only is missing, and in every case the column is normal. The plant has a second raceme in a similar abnormal state. It is a curious example, and it will be interesting to note if the flowers maintain their abnormal characters on a future occasion. The flower in which the petaloid staminode A 2 is present is very instructive, as it is curved much in the same way as the side lobe of the lip, which it really represents. An example was recorded at page 302 of the last volume, where a flower of C. insigne had the lip reduced to the two united side lobes, the front lobe or median petal being absent. Cypripediums seem unusually subject to deformities in the flowers.

R. A. R.

THE HYBRIDIST.

Cypripedium × Harrisander.

A very pretty Cypripedium was exhibited at the Royal Horticultural Society's meeting on July 28th, from the collection of W. C. Clarke, Esq., Sefton Park, Liverpool, under the above name, which is said to have been raised by Mr. Ashton, of the firm of W. L. Lewis & Co., from C. Harrisianum superbum ♀ and C. Sanderianum ♂, and well combines the characters of the two parents. The leaves are marbled much as in the seed parent, and the scape bears three flowers, most like C. Sanderianum in shape, but the curved petals broader and about five inches long, and the colour much modified by the influence of the other parent. The dorsal sepal is lined with purple-brown on a greenish ground: the petals spotted with similar colours: the lip bright vinous purple: and the staminode concave, bilobed, and hairy at the sides.

Masdevallia × Ajax.

This is a very pretty hybrid, raised in the establishment of Messrs. James Veitch & Sons, from Masdevallia × Chelsoni ♀ and M. peristeria ♂, to which an Award of Merit was given at the Royal Horticultural Society's meeting on July 28th. The plant most resembles M. peristeria in shape, but the scapes are longer, and the flower is fairly intermediate in character. The perianth is very densely spotted with reddish brown on a bright yellowish ground, and the numerous short hairs present show some of that violet iridescence seen in M. × Chelsoni, and which were derived from M. Veitchiana in the first place. The tails are very dark, and the lateral ones cross each other. Thus the general effect is that of M. × Chelsoni, modified in shape and darker in colour, on account of the innumerable little dots derived from M. peristeria. It is a very interesting addition to the group.

CYCNOCHES MACULATUM.

It is interesting to record that this fine species has again appeared in cultivation, having been imported by Messrs. Hugh Low & Co., this season, as a unique specimen from Venezuela, and flowered in their establishment. It has now passed into the collection of the Hon. Walter Rothschild, at Tring Park. The species was originally described by Dr. Lindley in 1840 (*Bot. Reg.*, xxvi., *Misc.*, p. 100) from a plant which flowered in the collection of Mr. Barker, of Birmingham, in November, 1839. Its habitat was not then recorded. Immediately afterwards a figure was published in *Maund's Botanist* (IV., t. 156), from a plant which flowered in the collection of John Wilmore, Esq., of Oldford, Staffordshire, a month later. This plant

is said to have been sent from La Guayra, with Cattleya Mossiæ and numerous other species, in the April previous, by Mr. Charles McKenzie, a collector for Messrs. Low, of Clapton Nursery. It is rather curious that the same firm should now re-introduce it after an interval of fifty-seven years. In February, 1840, a fine figure appeared in *Lindley's Sertum Orchidaceum* t. 33, where it is said to be a Mexican plant, though a note records that it has also been found in La Guayra by one of the collectors employed by Messrs. Low & Co., of Clapton. The Mexican habitat, however, is evidently erroneous, and it is highly probable that both plants came from the same source. The plant bears a pendulous raceme about 1½ feet long, with from two to three dozen large flowers, the sepals and petals being pale green with many light brown spots. Lindley remarked: "Surely it is one of the most curious productions of nature in her wildest mood. Did any one ever see such a flower before? Which is the top, which is the bottom? What are we to call that long club foot? which is cloven too; and what the crooked fingers daggled with blood, which spread from the middle of one of the leaves, as if about to clutch at something? And what, moreover, *can* they all be *for*?" But this was nearly sixty years ago, and these points have all been cleared up since. It is well known that this sportive genus was a standing puzzle to Lindley and others. Wagener also collected it near Caracas at 4,500 feet elevation (*Bonplandia*, II., p. 19), and one of the plants flowered at Berlin. Messrs. Backhouse, of York, also flowered a single plant in 1888. The female flowers are still unknown. There yet remains the handsome *C. aureum*, a native of Chiriqui, and probably the handsomest species in the genus, to be re-introduced, though now the culture of these plants is better understood it would be worth while for someone to make an effort to secure it. Plenty of light and heat when growing, and then a good rest in a comparatively dry state seems to ensure their success.

R. A. R.

RENANTHERA IMSCHOOTIANA.

It is interesting to record that Messrs. F. Sander & Co. have obtained some plants of the above handsome Orchid, whose history was given at p. 208 of the last volume of this work. These imported plants confirm what was previously recorded—namely, that it flowers as a dwarf plant, like a Vanda, but they also show that the inflorescence is sometimes branched. A plant recently described as R. Papilio King and Pram in *Journ. Asiat. Soc. Bengal*, lxiv., 1896, p. 328 is synonymous. It is a native of Assam, and some years ago dried flowers and a living plant were sent by Lieut. E.

J. Lugard to the Calcutta Botanic Garden, but in the uncongenial climate the latter soon died. Lieut. J. B. Chatterton afterwards sent some plants, which were immediately transferred to the more congenial climate of the Sikkim Cinchona Plantations, where they flowered. These facts should be borne in mind by those who secure plants. Two plants only were previously known, the original one in the collection of M. A. Van Imschoot, and another in that of E. H. Woodall, Esq., which received an Award of Merit last year. The flowers have been compared to a brilliantly-coloured butterfly with expanded wings. It appears to be very floriferous, and owing to its dwarf habit and brilliant crimson-scarlet flowers, ought to become popular. The great drawback to the extended culture of the species of this handsome genus has been their tall climbing habit, and the fact that they seldom flower before reaching a considerable size, but these peculiarities are not found in the present species. A Renanthera with the habit of **Vanda cœrulea should be an acquisition.**

R. A. R.

AN ORCHID AT HOME.

A HANDSOME Orchid, which grows on Mount Pena Blanca, in Nicaragua, is described in the following note from *Belt's Naturalist in Nicaragua* (p. 142), though what it is we cannot imagine, and it would be very interesting to find out its name. We do not know anything like it in cultivation.

"The rock, on the southern and most perpendicular side, weathers to a whitish colour, and is called Pena Blanca, meaning the white peak. It is visible from some points on the savannahs. During the summer months it is, on the northern side, covered with a caulescent Orchid (Ornithorhynchos) that has not been found anywhere else in the neighbourhood: and the natives, who are very fond of flowers, inheriting the taste from their Indian ancestors, at this time, often, on Sundays, go up to it and bring down large quantities of the blossom. Its colour, when it first opens, is scarlet and yellow. Among it grows a crimson Maclearia. Once when I made an ascent, in March, these flowers were in perfection, and in great abundance, and the northern face of the rock was completely covered with them. When I emerged from the gloomy forest, the sun was shining brightly on it, and the combination of scarlet, crimson, and yellow made a perfect blaze of colour, approaching more nearly to the appearance of flames and fire than anything else I have seen in the floral world."

ARE VARIETIES PERMANENT?

A QUESTION which has been raised on more than one occasion has again been asked by a correspondent, namely, whether varieties of Orchids, and particularly albinos, are permanent coming true year after year or whether they revert back again to ordinary forms. In the great majority of cases we believe that varieties can be relied upon to keep true under all circumstances, as many true ones keep perfectly constant from year to year, and we should be almost as much surprised to find that the contrary were the case as we should to find that one species changed into another. Who ever heard of the brilliant Odontoglossum Pescatorei Veitchianum reverting to an ordinary form? And the same remark applies to Cypripedium Lawrenceanum Hyeanum, C. callosum Sanderæ, C. bellatulum album, and hundreds of others. Their peculiarities are fixed, and no variations of treatment have any effect on them. They may be reduced in size by starving them, but not changed into something else, and good culture always again restores them to their normal size. It is true that on one occasion a flower of Cypripedium Stonei platytænium produced a single petal of ordinary C. Stonei, but there is good reason for believing this remarkable form to be a sport, or an abnormal condition of the species whose peculiarity has become fixed. But whatever subtle influence it was which caused the reversion of one petal to the normal condition, it had no effect on the remaining ones, and the peculiarity was not repeated at the next time of flowering. True albinos of Cattleyas are perfectly constant from year to year, though we believe that some very pale forms vary a little under certain conditions, sometimes being nearly white, and at others decidedly tinted. And there are some which open nearly white, but become tinted as they get older. But even these are practically constant in their character, though of course they are not albinos.

In many cases albinism, or the absence of some particular colouring matter, extends throughout the plant, though it may not be always apparent to the eye. In the case of Cypripedium bellatulum album, C. venustum Measuresianum, Phalænopsis Schilleriana vestalis, and various others, the absence of the dark or purplish colouring matter from the leaves affords a sure index to what the flowers will be when they expand, though in other cases the leaves may not show this peculiarity.

In certain Odontoglossums it has been observed that the size, number, and arrangement of the spots vary somewhat from year to year, which is probably due to variations in the health and vigour of the plant, and perhaps also to variations in the amount of heat and light. But similar variations may sometimes be seen between different flowers on the same inflorescence, and in any case the variations are only fluctuations from a certain mean.

There is probably no authentic case of a dark, heavily spotted variety reverting to the normal form one year, to a pale or unspotted one the next, and then back again. Such erratic variations are practically, if not altogether, unknown.

There is one class of so-called "varieties" which cannot be described as constant, namely, those due to culture alone, and probably these, more than anything else, have given rise to the idea that varieties are not always constant. But the fact is, these are not varieties at all in the true sense of the word, but only exceptional developments of some ordinary form, owing to some exceptional circumstances. A plant may have become exceptionally strong through good culture, or possibly through being in some particular position in the house, or not having flowered the previous year, hence the flowers may be of exceptional size, or the colour more highly developed than in others perhaps grown in the same house. Such a plant may be labelled as a distinct variety, but the following year the peculiar conditions may not be repeated, or may be even reversed, and in such cases it is quite possible to jump at the conclusion that varieties are not permanent, instead of attributing the fact to its real cause. Plants that are only potted about once in three years sometimes experience a check the first year, but do extremely well the second, after which there may be a little falling away the third year owing to the compost becoming exhausted. Of course there are many varieties of exceptional size or colour, which are not in any way due to culture, and these are varieties in the true sense of the word, and subject to fluctuations under good or bad treatment, but yet retaining their own essential character.

An accidental change of labels may also give rise to an idea that varieties are not always permanent, but such cases, of course, cannot be taken into consideration.

We could enumerate many cases of varieties which are absolutely constant in all their essential characters from year to year, and a few where small changes have occurred in the size and number of the spots, or even a little in depth of colouring, and we should be glad if others would send us their experience on the subject, as it is a question of some importance to purchasers of Orchids. Of course, the occasional occurrence of abnormal flowers, or of change of sex in the genera Catasetum and Cycnoches, sometimes mis-called "sporting," cannot be held to affect the question in any way. True sporting, or the sudden production of a distinct variety on some well-known plant, of course, is not excluded, though examples among Orchids are exceedingly rare, and we can only call to mind the remarkable case of Cypripedium × Dauthieri, which has already been recorded in our pages. Another very curious case has recently arisen which is recorded on another page.

DIES ORCHIDIANÆ.

I was much amused with the article on Orchids by a newspaper correspondent, reproduced in the last number of the *Review* (p. 202). That remarkable story of the "village of the demon flowers" is surely a rival of the one about the Eulophiella, and it would be rather interesting to know how it originated. I picture to myself poor Forsterman and his companions making the circuit of that acre of forest wherein trees, and undergrowth, and everything were loaded down with Orchids, of hues more brilliant than anything ever seen or dreamed of before: how they feasted their eyes upon the flowers through their field glasses, at the respectful distance of a hundred yards, their noses muffled up the while, being totally unable to reach the plants, which would have made their fortunes, on account of the sickening odour. How bitter must have been their disappointment—no wonder they almost cried—as they slowly retraced their steps. This was worse than the dreadful "Protocryptoferox Madagascariensis" and the treacherous brother-in-law, for even their combined efforts could not protect the Eulophiella, and they certainly tried very hard. Is every one who read the story must have been convinced.

But I am a little concerned about that second expedition, for it appears that "on returning to London, Forsterman told this wonderful tale to some of the rich Orchid collectors, and an expedition was organised to go in search of it"—that is, the Orchid, not the tale. "The expedition found the exact spot, but they gave up in despair of ever being able to more than feast their eyes upon the flowers through their field glasses. And there, somewhere in the depths of the vast tropic forest, they remain to this day." I suppose "they"—the members of the expedition, please note—are waiting until that Orchid goes out of flower, in which case I fear its doom is sealed. But then, that sagacious plant may have heard of Orchid collectors before, and, knowing its weak point, may go on flowering all the year round. I rather hope this will prove to be the case, for such a plant would add a new terror to the Orchid house. Fancy such a plant, and always in flower. I wonder our collectors should have taken any trouble about it. But then, Orchid collectors are not ordinary mortals, according to our newspaper correspondent. A waggish friend suggests that it must be the "blue Cattleya," but if so, the writer forgot to mention the fact, for he states that "the rarest of all the varieties of Orchids are the blue ones, and of these the list is short indeed, even when those which exist only in the tales of Orchid hunters are taken into account." I am now trying to make out what connection there is between the two.

Two or three communications have now reached me respecting the "blue Cattleya," one of which points out that the plant was sold entirely on the strength of the collector's statement, which was circumstantial, and apparently convincing. This, I think, is quite likely, though it affords little satisfaction to those who purchased the plant and found it did not answer to the description. Vendors of Orchids must see to it that they are not themselves taken in by improbable stories. It would be interesting if the entire history of the transaction were recorded. It may be worth while to reproduce the following extracts from an article which appeared in the *Pall Mall Gazette* for February 8th last, the day after the sale:

"A BLUE CATTLEYA AT PROTHEROE'S. Sensations are not rare at 67, Cheapside, though the public does not commonly hear of them. When a dozen of the richest men alive contend for an object, everybody likes to know the result: but the announcement of a new flower with an incredible name does not perceptibly agitate the City. Almost every one knows enough of Orchids to understand that a blue Cattleya comes as near the miraculous as can be expected in these days, like the new photography, and that was the sensation promised yesterday afternoon. Blue Orchids are very scarce. . . . but there is a small proportion among ground species. . . . Therefore the report of a blue epiphytal species hitherto unknown rouses more interest in the small class which troubles about such things than any other incident of its sort. It is, indeed, about the rarest of events, and in the only instance which we recall without book, the sale was stopped abruptly amid laughter and jeers. A foreign personage who should have known our market better offered a "blue Orchid" a few years ago which English gardeners recognised as a species familiar from their childhood, never before described as "blue." But a blue Cattleya has been rumoured for some years past in the innermost circle of adepts. The only authority for it, as far as we have heard, is certain Scotch miners who were sent out to prospect in one of the wildest districts of South America. Their report is unanimous and categorical. Cattleyas of divers sorts became as familiar to them, during several years' wandering, as roses at home, and if they tell a falsehood it must be a wilful one. But it does not follow by any means that the plant offered by Messrs. McArthur is that the Scotch miners describe. In fact, two thousand miles separate the locality which they indicate from the Guarico mountains of Venezuela whence this **Cattleya has been brought.**

"The little crowd at Protheroe's should be described, perhaps, as eager and inquisitive rather than enthusiastic. Every one wanted to know what every one else thought about the grand discovery announced. The great amateurs and dealers, Sir Trevor Lawrence, Lord Rothschild, Mr.

Chamberlain, Mr. Measures, and Messrs. Sander, Bull, Low, &c., were all represented. But we noticed only the Hon. Walter Rothschild, Mr. Mason, and the great Belgian amateur, M. Madoux, of the former class in personal attendance. Mr. Protheroe made no speech in opening the sale as was expected. He handed a dried specimen of the flower from his rostrum; it was in appearance a fine example of the ordinary Cattleya Mossiæ without a trace of blue, but this needs no explanation. It was stated in the catalogue that the flower keeps its "celestial hue" only six days, "afterwards changing to a light rose colour that of a Lælia purpurata rose and lasting three weeks in perfection." Mr. Protheroe went on to read an assurance of *bona fides* from the collector: "I guarantee conscientiously, on my word of honour, that these plants have never been seen by any European Orchid collector." And then, without more words, the quintessence of floral beauty was put up—that is, a hundred bundles of dry sticks, some with leaves still attached, which, as the sanguine doubtless did not doubt will bear a bloom of heavenly hue and giant size before the year is over. But the sanguine did not predominate, or they had not enough money. Ten guineas was the highest price paid—two guineas or so the lowest—prodigious sums, as the inexperienced might think, for a bundle of dry sticks and a leaf or two, but far indeed below the value which one would have assigned to the merest fragment of a blue Cattleya."

Now I think that after this anyone who expected to get a blue Cattleya must have been very credulous. A dried flower like ordinary Cattleya Mossiæ, without a trace of blue, was handed round, the collector reported that after five days it changed to light rose, and he guaranteed conscientiously on his word of honour that these plants had "never been seen by any European Orchid collector." I should think that both auctioneer and amateurs will fight shy of "blue Cattleyas" in future, until they see them in flower, even if backed up by the unanimous and categorical reports of prospecting Scotch miners. The name sounds too much like that of the "scarlet Phalænopsis," and the Cymbidium of that ilk.

Argus

FERTILISATION OF CATASETUM.

Having a plant of a terrestrial species of Catasetum recently in flower, in which the inflorescence consisted of three large lipped flowers, held aloft on a strong scape eighteen inches long, I was interested in watching the course of procedure followed by the two or three species of bees which constantly day after day visited it, one or more of them being almost permanently present

in the flowers all day long. These bees, Mr. Quelch kindly informs m belong to the genus Euglossa, a genus allied to Bombus, which compris only the common humble bees, and the members of the two genera a about the same size—that is, from three-quarters to one and a quarter inch long. The members of Euglossa are distinguished by the long probosc they possess, which exceeds the length of the body, when stretched its length. When not employed it is kept folded near the mouth. The sm species of the two I captured had two bars of yellow or gold on the bas the body, and the larger three. In most of the Catasetums the fe flowers are inverted, the lip, which is in the shape of a hood, being al the other parts, with the column, to which it is attached, underneath t Each of these two species of Euglossa which visited the flowers adopted different course in entering the cavity of the lip in their search for nec The smaller species alighted invariably on the column, and walked d wards face into the lip, and took up the nectar, retreating, when finished, b walking backward on the face of the column again. While inside the flow however, it kept on, without cessation, brushing by repeated contracti the top of the column with the end of its body. By this process, if a m flower were approached and treated in the same way these female flow were treated, the pollinia would be detached and would adhere to the bee body, and when the female flower in turn was visited it would be fertilis by the stigma, which is near the end of the column, being brushed by t column, by the contractions of body I have described.

The larger species, however, invariably adopted a different course. I alighted on the summit of the lip, and walked in back downwards, as house-fly walks on a ceiling, and in doing so its back invariably touched t top of the column. Entering a flower in this way the pollinia would b liberated by the pressure, and would stick to the back of the insect, a when a female flower was entered it would rub against the stigmatic surfa thus effecting fertilisation of the flower. These deductions I derived fr watching the bees at the flowers, and subsequently the accuracy of th second one was confirmed by my seeing a bee at work extracting the nect from the flowers, with the pollinia from a male flower firmly attached t the sticky disc to its back between the shoulders. Where it got the pol from I do not know, as when I first saw it the pair were attached to it very conspicuous. I captured it with the pollinia on, and it is now in th British Guiana Museum. I have since seen another of the same species bee flying about with a pair of pollinia attached between its shoulder exactly in the same manner.—C. S. Jerman, in Demerara "Argosy," June 8th, 1889.

THE LARGEST CATTLEYA.

CATTLEYA Warscewiczii, now flowering well in numerous collections, is probably the largest-flowered species known, and we do not know that the following dimensions, recorded in the *Gardeners' Chronicle*, 1885, xxiii., p. 758, have been exceeded. A flower was shown at the Whitsuntide exhibition at Old Trafford, in 1885, which was measured by several Orchid growers, every one expressing astonishment at its magnificent size. It was just worth observing the look of surprise that came over each countenance as the rule was placed on every part, eclipsing everything that had hitherto been seen or even anticipated. The diameter of the flower was 11 inches, each petal covering 5½ inches, these in their widest part being just 3 inches across. The sepals were, perhaps, rather narrow, but in length were equal to the petals. The broad flattened lip extended well below the throat to 2¼ inches, while across this part of the labellum 3 inches were measured. The colours of the blooms were of the best and richest hue, and every division of the bloom was perfect. It flowered in the collection of the late G. Hardy, Esq., of Timperley, Cheshire.

CYPRIPEDIUM BELLATULUM.

I SEND you a photograph, taken by my daughter Constance, which gives a very good idea of the luxuriant health of seven plants of Cypripedium bellatulum that have been growing in my collection for upwards of three years. I purchased all of them as imported pieces, and have thoroughly established and flowered them, as the photograph will show. These plants, as are all the Cypripedes of this section in my collection, are growing with little else but limestone pieces in their pots, with the smallest quantity of fibrous loam to keep the stones firmly wedged at the surface of the pots. My experience of a good few years has proved that the roots of Cypripedes of this section delight in running along, and clinging to, limestone, which represents as nearly as possible the native rocks on which they are found growing. The more loam that is used, the worse the plants grow, and the more subject they are to lose their roots, and ultimately damp off. The greatest care has been taken in watering, in order to prevent water lodging in the axils of the leaves, or in the centres of the young growth. In potting these Cypripedes great care should be taken to keep the rhizomes below the rim of the pot, for those plants which are elevated never grow as well as **those planted below the rim. I have close on 140 plants in my collection,** and they are all, more or less, in a satisfactory condition.

O. O. WRIGLEY.

Bridge Hall, Bury.

AN AMATEUR'S NOTES.

With the advent of the hottest season of the year a great falling off in th number of showy Orchids in bloom may be observed, though there is always something of interest to record. The handsome Cattleya Warscewiczii is now flowering splendidly, and is doing unusually well this season, for some cause. When at its best it puts every other Cattleya into the shade, and a truss of six such massive flowers would seem almost too much for th pseudobulb to carry. Cattleya Rex is also flowering well, and is a charming thing, as its brilliantly-coloured lip affords a striking contrast with the cream-coloured or light buff sepals and petals. The flowers, however, are a little small, and a cross with C. Dowiana, if it could be effected, would probably yield something interesting, owing to the good constitution of the former, in which C. Dowiana is somewhat defective. C. Gaskelliana and C. Eldorado are also making a good show. Lælio-cattleya × Schilleriana, too, is just now flowering well, and is a little in advance of L.-c. × elegans which will soon be out. Epidendrum nemorale, E. Brassavolæ, and E. cinnabarinum are also among the additions of the present month, as well as **Brassavola Perrinii.**

In the warmest house, Phalænopsis Lueddemanniana, P. violacea, and P. denticulata are among the most interesting objects, while Phaius Humblotii, mentioned last month, is at its best. Another striking addition is the old Aërides odoratum, which is very effective, and the flowers powerfully fragrant with an aromatic perfume. Cœlogyne Swaniana is another addition, while Vanda tricolor and some of those mentioned in **previous notes are also still in flower.**

In the Cool house the Odontoglossums show a great falling off, but O. Wallisii, O. Lindleyanum, the handsome O. Harryanum, O. nebulosum, and O. × cristatellum make an attempt to keep up the display, while that little gem Cochlioda Nœtzliana is flowering profusely, though now past its best. Among the Oncidiums must be mentioned the handsome O. cuspidatum, which makes a fine display, while O. × Gardneri and O. dasytyle, with a few of the smaller-flowered kinds, are also flowering well.

Cypripediums keep up a constant succession throughout the year, and a number of well-known hybrids are now in flower, together with some of the species alluded to in previous notes. But if flowers are somewhat scarcer than usual, there is a great interest in looking round the collection and observing the progress made with growths for another season, which, thanks to the fine weather, are very promising, though in the Cool house it has been a difficult matter to keep the temperature down.

AMATEUR.

A CYPRIPEDIUM SPORT IN THE LAW COURTS.

A curious law suit respecting a sport of Cypripedium × Harrisianum is recorded in the July number of the *Revue de l'Horticulture Belge*. It appears that Messrs. F. Sander & Co. saw a very fine variety of this plant *in bloom* in the establishment of M. Vincke, and purchased it for the sum of a thousand francs, but in the following year it produced flowers of an inferior character, hence they sought to have the money refunded. The action was tried before the Tribunal of Commerce of Bruges on April 10th last. Messrs. Sander alleged that they bought the plant for the sake of a unique only on account of the peculiarities of colouring which the flower displayed and said that the vendor of an article ought to guarantee the existence of the special characteristics which caused the sale to be effected and that the year after the sale, if the plant no longer bore a similar bloom, restitution should be made, as is the custom of the trade in dealing with Orchids. The vendor replied that there could be no special guarantee, that the plant had been bought in flower as it stood, and he denied the alleged existence of the trade.

The Tribunal gave a verdict for the vendor, with costs, on the ground that the plant was purchased in the state in which it was offered, without any stipulation or guarantee, especially as to the production of similar bloom at the next flowering season, and if it be shown that the plant did not again produce a similar flower to that which it bore on the day of sale that fact would not nullify or cancel the sale: that, in fact, the vendor parted with the plant without guarantee as to the purity of the colouration of the blossom: that there was therefore no positive mistake to avoid the contract, nor concealment which justifies cancelling, but simply a circumstance, often happening in Orchid culture, that is, the occurrence of variation in the colouring. The purchasers, being Orchid importers, must be acquainted with these possible variations, and this being the case, if they had desired to protect themselves in case of such an event, should have stipulated in special terms, or effected a conditional purchase. As to the alleged custom of the trade, which the vendor considered had reference only to the sale of Orchids not in bloom, the Tribunal passed the matter as not being proved, and as not affecting arrangements made between the parties.

What was the nature of the variation in question, whether a sport or not, does not appear in the report, and it would be rather interesting to know. Cypripedium × Harrisianum was the first hybrid in the genus and during the twenty-seven years that have elapsed since it flowered for the first time a number of varieties have appeared, some of which have developed a sportive tendency. This is particularly the case with the one

known as C. × Dauthieri, and the history of two or three very remarkable sports was given at pages 20 and 147 of our second volume. Then there is the remarkable yellowish-green C. × Harrisianum virescens, described at page 235 of the same volume, which may have originated as a sport, though we believe it is constant in character. There is also a variety which is irregularly flamed and striped, both on the dorsal sepal and lip, which we believe maintains its character. The only form we know of which exhibits varying characters from year to year is that called C. × Dauthieri, The Albino, whose singular history has already been given in our pages. Various secondary hybrids have also been raised between C. × Harrisianum and other species and hybrids and from these various forms additional sports may be looked for in future. How far vendors are to be held responsible for these vagaries is a rather nice question.

STENOGLOTTIS LONGIFOLIA.

Additions to the list of really handsome greenhouse Orchids will be welcomed, and after seeing this plant on several different occasions, we can recommend it as a sterling acquisition, of easy culture, very free-flowering, and remaining in perfection for several weeks indeed, between two and three months elapse between the appearance of the first and last flowers. It is a native of Natal, and was sent to Kew by Mr. J. Medley Wood, Curator of the Durban Botanic Garden, and flowered for the first time in 1889. It is figured at t. 7186 of the *Botanical Magazine*. It is near S. fimbriata, figured at t. 5872 of the same work, but differs in several particulars, and is altogether a much more robust plant. S. fimbriata bears a small rosette of leaves which are banded or spotted with dark brown, and a scape about six or eight inches high, with a small raceme of pretty purple flowers having a three-toothed lip. S. longifolia has much longer, more erect, undulate green leaves, with a tinge of purple near the base, and scapes a foot or more high, with very numerous purple flowers having a five-toothed lip. A small clump will bear five or six of these spikes, reminding one somewhat of an Orchis, and forming quite a charming little specimen. It is rather nearly allied to Habenaria, and flowers in the autumn, the first flowers expanding about this time of year. It can be increased by off-sets, something like Disas, and is very easily grown in a moist and partially shaded situation, like many other terrestrial Orchids. It is to be found in several collections, and ought to become common as its merits become better known.

CATTLEYA × HARDYANA.

THE subject of our present illustration is the beautiful Cattleya × Hardyana, the most handsome natural hybrid known, which will soon be in flower in various collections. It originally appeared in 1885, in the collection of the late G. Hardy, Esq., of Tamperley, and quite unexpectedly, having flowered out of an importation of C. Dowiana aurea and C. Warscewiczii; and its hybrid origin was at once apparent. The flower distinctly combines the characters of the two parents, though it is most like C. Warscewiczii in colour, but with the addition of some golden veining in the throat, derived from C. Dowiana.

Fig. 13. CATTLEYA × HARDYANA.

The history of the plant was given in 1885 by Mr. W. Swan, of Fallowfield (*Gard. Chron.*, 1885, xxiv., p. 206), and may be briefly summarised as follows: The plant was imported about five years previously, and was purchased for Mr. Hardy by another grower, when buying a lot for himself, as C. Sanderiana. However, in a couple of years it opened its first blooms, when it was plain to the owner that a fresh form had appeared. This was in 1883, and in the two succeeding years it again bloomed, on the

last occasion bearing four flowers on a spike. It was described as having the best points of C. gigas and Sanderiana, with a dash of C. aurea thrown in, the flowers being strongly scented. It was shortly afterwards figured in the *Orchid Album* (V., t. 231).

The earliest notice, however, which we have discovered appeared in the *Gardeners' Chronicle* for August 16th, 1884 p. 211, before the plant had been named, as follows :—

"New Cattleya.—An extraordinary variety, evidently a natural hybrid between C. Mossiæ and a variety of C. gigas—probably Sanderiana—is now in bloom in the collection of George Hardy, Esq., Pickering Lodge, Timperley, Cheshire. In form and size it is a magnificent thing, and in the richness of the labellum it is just what might be expected from the blending of the bright orange veining in the throat of C. aurea with the expanded rich crimson lower half of the other parent. It is wonderfully beautiful and sweet."

In course of time various other individuals appeared among importations of these same two species, some of them being very different from the original form in the way the characters of the two parents are combined, though obviously forms of the same hybrid. One of the earliest of these was the variety Masssiana, which appeared in the collection of M. le Duc de Mussat Lusanches, Belgium, in 1888, and was figured in the *Orchid Album* VIII., t. 292, as C. × Mossiana. The flower has the general shape of C. Dowiana, but the sepals and petals are mottled with light rose and white, and the lip rich magenta-crimson, with two large areas of bright orange-yellow at the sides, and the throat striped with brownish crimson on a yellow ground.

The next appearance of the hybrid which we have found recorded is in 1888, and may be quoted, as it again illustrates the totally unexpected way in which these natural hybrids appear: "A specimen of this rare natural hybrid between C. Mossiæ and C. gigas, with over one hundred bulbs and ten heads, now bears several spikes of gorgeous fragrant flowers, apparently exactly the same as the original plant, in flower with R. H. Measures, Esq., at Stechford. The plant was a lucky speculation, it being bought as C. gigas variety, out of an importation of Messrs. F. Sander & Co." *Gard. Chron.*, 1888, iv., p. 446.)

In 1888 two other forms appeared in the collections of E. G. Wrigley, Esq., of Preston, and A. Horne, Esq., of Ellerfield, Manchester, which were at first taken for C. Dowiana aurea, with rosy segments. *Gard. Chron.*, 1888, vi., pp. 292, 520.) The latter named flowered out of a batch of C. Dowiana chrysotoxa imported by Messrs. Sander. Almost, if not quite all, the plants known have appeared out of importations of the two parent species, and considering how much these two resemble each other when

out of flower, it is obviously difficult to recognise the hybrid in the same state. Indeed, the late Mr. B. S. Williams recorded that on several occasions he had purchased C. gigas and flowered examples of C. Dowiana out of the lot, while, on the contrary, some which he imported for the latter proved on flowering to be C. gigas. The possibility of obtaining forms of the hybrid has given an increased value to importations from the districts on the western cordillera of New Granada, where the parent species *are known to grow together.*

VAR. LAWRENCEANA *Lindenia*, t. 305 is a mabled form with yellow blotches on the sides of the lip, very closely resembling var. Massaiana, which appeared in the collection of Baron F. de Rothschild, Château de Laversine, France, in August, 1891.

VAR. OWENIANA (C. × Oweniana, *Gard. Chron.*, 1892, xii., p. 312) appeared with Messrs. F. Sander & Co., in 1892, and has cream-white sepals and petals, with a faint purple tinge at the tips, and the lip regularly veined except on the apical half of the front lobe, which is deep velvety crimson. Figures are given in *Journ. of Hort.*, 1892, xxv., pp. 240, 241, fig. 33, and *Gard. Mag.*, 1892, ii., p. 548.

VAR. GARDINIANA (*Lindenia*, t. 353) appeared with M. J. Gaudet, Bois de Colombes, near Paris, in 1892, and approaches C. Dowiana most in shape, and C. Warscewiczii in colour, there being little of the golden veining of the former, though the side lobes of the lip are quite yellow.

VAR. STATTERIANA (*Lindenia*, t. 373) is a very remarkable form which appeared in the collection of T. Statter, Esq., Stand Hall, Whitefield, Manchester. It has white sepals and petals, and a marked yellow, beautifully veined lip, the front half of the apical lobe crimson with a white margin, and a little pink round the margin of the side lobes. It has the following synonyms: C. × Statteriana, *Journ. of Hort.*, 1892, xxv., pp. 260, 277, fig. 38. C. Dowiana aurea Statteriana, *Gard. Chron.*, N., t. 48

VAR. COUNTESS OF DERBY (*Gard. Chron.*, II., pp. 204, 336) is a magnificent variety, which appeared in the same collection as the preceding. It has white sepals and petals, and an intense purple crimson lip, with rather small yellow eyes, and some of the characteristic veining of C. Dowiana in the throat, as well as a great approach to the same in the shape of the flower. The following are synonymous: C. Warscewiczii Countess of Derby, *Gard. Chron.*, 1894, xv., p. C. gigas Countess of Derby, *Journ. of Hort.*, 1894, xxiv., pp. 274, 275, fig. 40.

VAR. MARMORATA (*Orch. Rev.*, II., p. 350) has mabled segments, and thus approaches var. Massaiana. It appeared in the collection of C. J. Lucas, Esq., Warnham Court, Horsham.

VAR. LEEANA (*Gard. Chron.*, 1894, xvi., p. 720) is another very

handsome form, which appeared in the collection of His Majesty the King of the Belgians, at Laeken, in 1894. It is near var. Statteriana, but the yellow areas at the sides of the lip are much smaller, the crimson being more developed on the front, sides, and disc. C. × Leopold II. (*Lindenia*, t. 479) is synonymous.

Var. Luciani (*Lindenia*, t. 449) approaches C. Warscewiczii in shape and colour, but has a little yellow veining in the throat, the yellow in the middle extending across the lip, and the front lobe a little marbled with white. It appeared at L'Horticulture Internationale, Brussels.

Var. Lindeni (*Lindenia*, t. 478) has the same origin as the preceding. It has a dark crimson-purple lip, which colour extends round the margin of the side lobes, and the usual veining on the disc. The sepals and petals are more like C. Dowiana in shape.

Var. alba (*Orch. Rev.*, III., p. 322) is a very handsome form, which appeared in the collection of W. S. M'Millan, Esq., of Maghull, Liverpool, last year. It has white sepals and petals, with a lip very similar to that of typical C. × Hardyana.

It is probable that numbers of artificially-raised plants will in time be forthcomng, as the two species have been crossed in various collections with this object, as has already been advised in these pages. One of such crosses was recorded at page 262 of our second volume, and we have since heard of others.

Our illustration represents a plant in the collection of W. M. Appleton, Esq., Tyn-y-coed, Weston-super-mare, and is reproduced from a photograph taken by Mr. G. I'Anson, of Upper Clapton.

CATTLEYA GRANULOSA BANNERI.

A very striking form of Cattleya granulosa was exhibited at the Royal Horticultural Society's meeting on July 28th, by S. Banner, Esq., Sherwood, Sefton Park, Liverpool, in which the sepals and petals were almost wholly suffused with bright lurid purple, instead of being light green and more or less spotted. The flower was very large, measuring 5¼ inches from tip to tip of the petals, and all the segments proportionately broad, while the lip was quite typical in shape and colour. The petals and dorsal sepal were a little paler at the base, as also the inner halves of the lateral sepals, which showed a few traces of spots, but the remainder was of a remarkable purple shade. It is remarkably different from the typical form. A single cut flower was sent.

R. A. R.

BOTANICAL ORCHIDS AT KEW.

THERE seems to be a constant succession of Botanical Orchids at Kew throughout the year, in addition to the showy species which are found in every collection, and even those who draw the line at showy things will generally find something of interest among the things which are not generally cultivated. Stenoglottis longifolia must be included in the latter category, though it only requires to be better known in order to be appreciated. It is a native of Natal, and grows with the utmost freedom in the Cool house, producing numerous elegant Orchis like spikes of light-purple flowers at this particular season, and these last long in perfection. Lælia Lucasiana is another very pretty little plant, which some might object to see enumerated among Botanical Orchids, and which may in future be more widely cultivated. It has bright purple sepals and petals and a yellow much-crisped lip.

Among Epidendrums may be enumerated the pretty little Brazilian E. bracteatum, a plant of small stature, very floriferous, and with a rose-purple lip, which contrasts effectively with the light green spotted sepals and petals. E. radiatum is a Mexican species allied to E. fragrans, but with finer flowers. Polystachya is represented by P. Kirkii, P. leonensis, and P. zeylanica, the two former being Tropical African. Eulophia Mackenii is a curious little Natal species, with variegated leaves, curiously allied to the Brazilian E. maculata. Luisia cantharis has the lip curiously like a beetle. Geodorum is represented by G. purpureum and G. candidum: Coelogyne by C. flavida and C. Swaniana, the latter a recent introduction from the Philippines. Other interesting plants are the Brazilan Paradisanthus Moseni, allied to Aganisia: Trichocentrum Hartii, Doritis Wightii, like a small Phalænopsis, to which genus it has been referred: and Saccolabium gemmatum, with terete leaves and racemes of very small flowers.

Dendrobium crumenatum, known as the Pigeon Orchid at Singapore, has also flowered, but the blooms have the peculiarity that they come out together, and only last one day. D. hainanense has terete leaves and white flowers with some yellow on the lip, somewhat approaching the preceding, though not so fugitive. Among species of Liparis in flower may be mentioned L. decursiva and the small L. Praimi, together with the allied Microstylis congesta: while Oncidium is represented by O. Geertianum O. cæsium, O. auriferum, and Odontoglossum by O. myanthum, with numerous small brown and pale yellowish flowers. Other plants noted were Masdevallia Carderi, M. peristeria, Pleurothallis maculata, Lycaste lencantha, Sarcanthus Williamsoni, Satyrium militare, Selenipedium caricinum, and various others, including Stanhopea Haseloviana and

Sobralia Lowii, which, though handsome, are not very widely grown. Many species of the last-named two genera are very handsome when in bloom, though their fugitive flowers prevent them from becoming as popular as they otherwise would.

FERTILISATION OF CATTLEYA.

A flower of Cattleya Warscewiczii has been sent by Mr. C. C. Hurst, of the Burbage Nurseries, near Hinckley, in which a small humble bee has been caught by the viscid stigma, to which it is firmly glued by its back. The insect had entered the flower in search of food, but got too firmly glued to the stigma to free itself, and died there. Humble bees are known sometimes to remove the pollinia, and Darwin records one caught by Sir W. C. Trevelyan in a house where a Cattleya was in flower, with its whole back between the wings smeared with dry viscid matter, and with the four pollinia attached to it by their caudicles, ready to be caught by the stigma of any other flower which the bee might have entered. It is probable that Cattleyas in a wild state are largely fertilised by native bees, though very little seems to have been recorded on the subject. Mr. Richard Pfau stated at page 295 of our second volume that in Costa Rica Cattleya Dowiana produces a seed pod out of nearly every flower in its native habitat, but that at San Jose, only fifty miles away, where he cultivates them, he had not a single pod out of nearly four hundred plants in flower, though he keeps large quantities of hive bees; but these probably do not visit Cattleyas. Fine capsules are sometimes found on imported Cattleyas, which have no doubt been fertilised by native bees. It would be interesting if those who have the opportunity of seeing these plants in flower in their native homes would observe what insects visit them. If a flower is cut down longitudinally a spur or nectary will be found adnate to the column, which is the object of the insect's search. To reach this, however, the lip would have to be somewhat depressed, and as the side lobes are convolute round the column, only a strong insect like a bee would be able to force the lip down so as to get its body in, but having done this it would inevitably carry away the pollinia on its shoulders, and on visiting another flower these would become attached to the viscid stigma, and fertilisation would thus be effected. It will easily be seen that a small bee might not be able to extricate itself, as in the instance now recorded. It is probable that where Cattleyas grow wild there are certain insects (probably bees) which regularly visit the flowers, just as in the case of Coryanthes and others which have been duly recorded.

CYPRIPEDIUM × PETRI AND VAR. BURBIDGEI.

THE facts respecting Cypripedium Dayanum and C. vitens, recorded at page 206, have thrown a totally new light on the origin of two curious plants described by Reichenbach, some fifteen or sixteen years ago, under the names of C. Petri and C. Burbidgei, but which have since been considered as synonymous with C. Dayanum, in spite of their undoubted differences. Before going further it will be advisable to reproduce **Reichenbach's original remarks.**

C. Petri, Rchb. f., was thus described in 1888 (*Gard. Chron.*, 1888, xiii., p. 680): "This is very near Mr. Day's Cypripedium, yet fresh materials just to hand confirms the first impression, which I wrote in February last to Mr. Harry Veitch, that it must be regarded as distinct. Its leaves have a darker ground colour, and just those in darker, spite green paintings which are so characteristic in the affinity. The whole flower is smaller, shorter. Sepals white with green veins, very distinct in outline, and much shorter than in the species I first dedicated to my most assiduous correspondent. Petals light brownish, green at base, ligulate, acute, straight or cuneate, acuminate, covered on the whole border with long hairs, just as in Cypripedium Dayanum. Lip greenish brown, with dark sepia-brown on the front part of the disc, or totally of that colour, yet always, it would appear, with green angles. Warts on the border of involved base nearly purple. Staminode light green with some dark green veins. If there were not several other marks of distinction in addition to the totally different colour of the flowers, it would be well distinguishable by the relative length of the sepals and petals. This is a discovery of Messrs. Peter Veitch and F. W. Burbidge, made in the Malayan Archipelago. It only bears the name of one of these gentlemen." It is figured in Hook. f., (*Gard. Chron.*, 1894, p. 213, t. 2.

C. Burbidgei, Rchb. f., was described in the following year (*Gard. Chron.*, 1881, xvi., p. 380, as follows: "Much in the way of Cypripedium lawrenceanum, Renanz., and C. vitens, Rchb. f., but very easily distinguishable by the staminode, which is quite abrupt in front and with three exceedingly obscure teeth. The lip is more convex than in any species of the affinity quoted, resembling that of C. Petri and C. Dayanum. Petals light green, with a row of most obscure dots or warts on each side, and one on the middle line, and some more on the apex in front. The upper sepal is almost triangular, as in C. praestantium, with nine green nerves. The lower sepal is very small and short. Leaves nearly those of C. lawrenceanum. My first acquaintance with this was undoubtedly made by the assistance of Mr. S. Low, who pointed out the affinity with C. Dayanum, when I urged that with C. vitens, though the petals are too much bent down. It was a

flower apparently of a fresh importation, weak. I asked for a second flower, but till now it has not flowered again, and may have been sold long ago. Lately I obtained it, with a fine, strong, well-rooted plant from Messrs. Veitch. It grew together with C. Petri, and it is more gay in its colours. Mr. Harry Veitch was pleased by my suggestion to name it in compliment to Mr. Burbidge, since I like to have two Cypripediums as near companions, just as these two travellers were good companions."

It is quite evident from these remarks that the plants in question are not identical with C. Dayanum, however much they may resemble it in certain respects. Besides the differences in shape and colour, I have long been struck with the shorter ciliæ as compared with C. Dayanum, and the combined differences suggested an affinity with C. javanicum and C. virens. But the new facts above alluded to put the whole question in a new light, and on comparing all the forms together I find such an unmistakeable combination of the characters of C. Dayanum and C. virens in the doubtful forms C. Petri and C. Burbidgei as to leave no doubt in my mind that the two latter are both natural hybrids, with the parentage indicated, and forms of one, which may be distinguished as C. × Petri and var. Burbidgei. The discovery is interesting, and as Cypripediums are so easily hybridised, some one might make the experiment of crossing the two species together. Indeed, C. Dayanum might also be crossed with C. Lawrenceanum and C. Rothschildianum, with a view to proving the parentage of C. × Littleanum and C. × Kimballianum, two other Bornean Cypripediums believed to be of hybrid origin.

R. A. R.

ODONTOGLOSSUM × EXCELLENS LUTEOLUM.

A VERY striking form of Odontoglossum × excellens has appeared in the collection of Baron Sir H. Schröder, The Dell, Egham, in which the brown blotches so characteristic of this handsome hybrid are almost entirely absent, leaving the flowers light sulphur yellow with a slight suffusion of light purple on the back of the sepals, and the disc of the petals nearly white. There are a few small spots and streaks at the base of the lip, which are derived from the O. Pescatorei parentage, and on some of the flowers one or two minute spots on the front of the same organ, while one of the lateral sepals of a single flower has one small spot. With these trifling exceptions the flowers may be described as unspotted, and thus it forms a striking contrast with the typical form, with which it agrees in shape and size, and in the details of the column wings and crest of the lip. It is a very handsome form, and the almost total loss of the brown markings so characteristic of the O. triumphans parent is curious.

R. A. R.

CALENDAR OF OPERATIONS FOR AUGUST.

By H. A. BURBERRY, Highbury, Moor Green, Birmingham.

SOME of the earliest of the Dendrobiums will, during this month, complete their new pseudobulbs, and should be given a position in a cooler house, where a good amount of light and air is obtainable, so that the new and as yet unripened growths may duly become properly matured. Do not, however, let them become dried, scorched, and shrivelled up, by altering their growing conditions too suddenly; but bear in mind what I said last month, and avoid withholding water at the root too soon. Dendrobium Wardianum frequently breaks again quickly from the base, but this fact must not interefere in the least with the proper course of treatment. When these new breaks appear, some growers will encourage them by leaving their plants too long in a growing temperature, which only causes them to become weak and spindly, and therefore worthless. The above remarks apply equally to all other spring flowering species of Dendrobium. As soon as the main pseudobulb has finished its growth, by producing its last leaf, they should be given cooler treatment, quite independently of any secondary growth that may have started from the same pseudobulb. With those which flower in autumn it is different, they must not be removed from their growing quarters at least until after they have bloomed: by which time, in all probability, the temperatures will have cooled down considerably, so that to remove them is unnecessary.

Many of the Cattleyas and Lælias will likewise be drawing their growing season to a close, and should, if possible, be ventilated rather more freely than those still to finish. Among them principally will be found Cattleya Warscewiczii (gigas), which, by the way, should now be repotted where necessary, as soon as roots are seen pushing from the base of the pseudobulb. C. Gaskelliana is another that has finished, and probably flowered, and should now be given plenty of air, when the roots will continue to grow, forming quite a network on the compost –a pleasant and re-assuring sight to the grower, as Orchids must have healthy roots, and the more of them the better. Generally speaking, it is a good plan to encourage now the late growing kinds, such for instance as C. Mossiæ and Mendelii, if it is possible to do so, by giving them a slightly warmer and moister treatment than those which have already made up. The time of year is getting on, and it is well to have the growths as far advanced as possible, before the bad weather sets in. C. Lawrenceana is a very late-growing species, and for that reason it is best grown in the Dendrobium house, where C. superba, and C. Lueddemanniana (speciosissima), should also be grown. When C. Rex was first introduced, I was misled as to its requirements, and understood that more warmth than that of the usual Cattleya house was essential

for its well being: but I am now able to say that it is not so, the last named house suiting it admirably.

In the East Indian house it is best to be watchful just now, as yellow thrips are rather troublesome, and will do much damage to the young and tender foliage of Aerides, Cypripediums, Phalænopses, and Vandas, by permanently marking it. It is difficult at times to dislodge this pest from the axils of the leaves by fumigation, and when so the aid of tobacco powder must be resorted to. Ants, again, are often a great nuisance, and these are indeed difficult to get rid of. The poison that has from time to time been advertised in this journal, is more effectual than anything I have yet tried. Ants not only carry scale, &c., from one plant to another, but there are some plants from which they extract and live upon the sweet juices, and this, it is needless to say, quickly prostrates the plants attacked. I have had Pinalænopses quite killed by nothing more than ants bleeding them to death. The leaves in time turn yellow wherever previously pierced, and this spreads until the whole leaf is the same colour, and ultimately falls off. Nor is this the only evil that may be laid against them. They are busy creatures, for ever on the move, and in those pots which they select to principally locate themselves, will soon riddle the compost into small particles, causing early decomposition of the same. The ant is also very destructive to Orchid seeds just germinating. Every encouragement must still be given these East Indian Orchids, by keeping up sufficient warmth and moisture in the atmosphere, avoiding at the same time the possibility of letting the mass of sphagnum moss at their base get and keep in a continually sodden state, for if so the roots confined beneath will perish.

The present month is a good one in which to thoroughly overhaul the Cool house, and to do as much of the repotting as is possible. Epidendrum vitellinum, is now almost over, and supposing the flowers are not required for some future purpose, it is better now to cut them off, so that the new pseudobulbs may have a fair chance of becoming strong. If the leading growths are over the sides of the pots, they should have larger ones, otherwise a top-dressing is all that is required, for this species is best if disturbed but little. Until the autumn arrives they may have a good supply of water at the roots. D. Falconeri, which grows best in a cool and shady department, must now be sprayed frequently during the day. D. speciosum is also a cool growing species, but, unlike the first named, must be given a position where it can receive a good deal of light, and would be generally better suited in the Cattleya or Mexican house, as do also other species hailing from the east coast of Australia, such as D. Kingianum, D. tetragonum, D. linguiforme, and D. teretifolium. These species of Dendrobiums are not easy to re-establish after once having their roots disturbed, and should

therefore not be pulled about ruthlessly, nor be given too much water at the root, to cause the compost to become unduly sour; in fact, they require but little water.

Disa grandiflora, and other species of Disa, will now be making a good show. D. grandiflora is the best and showiest, and the most useful of them all. It is not always successfully cultivated: in fact, it is seen frequently in a by no means flourishing condition. It does not, however, hang in the balance long, but must either be grown well or will soon disappear. Therefore, should the plants be doing badly, some other method must be employed at once. Generally speaking, they share the same fate as many another Orchid, and are killed by too much kindness, or, in other words, by not being grown sufficiently hardy. They have been known to succeed extremely well side by side with Ericas and Epacris, which fact will prove that but little or no artificial warmth is required during summer, whilst the winter temperature should also be cool, and the atmosphere comparatively dry. The average greenhouse should, therefore, prove to be a splendid place for them, and beyond all doubt it is so: all the plants require is to be kept a little more shady and moist than the majority of the other inmates during the summer months. Of this they may also be grown during summer in a cold frame or pit. The only danger in the latter method lies in the possibility of having insufficient air to circulate round them. When the right culture is found they grow and propagate so freely and healthily that insect pests will prove but little trouble, though yellow thrips are a great nuisance, and can be dislodged only by using tobacco powder. Sandy peat seems to be the most correct compost, whilst pots are the best receptacles. Drain the pots with crocks about one fourth their depth only, and pot up rather firmly. Place in each one or more tubers, according to the size of the pot employed, a 48-sized pot being large enough for one fully-grown tuber. Directly flowering is past is the best time to repot. The offshoots, which are always plentiful, may be removed from the parent tuber and propagated in small pots. Unless the pots are overcrowded, Disas do not require to be repotted every year.

Nanodes Medusæ, the flowers of which are very interesting, if not strictly pretty, should be grown in the Cool house during summer and the Intermediate one in winter. The unusual colour of the flower, and the large fringed lips are the most conspicuous qualities of the bloom. But the plant itself is rather attractive when well grown, the stems being drooping and thickly sheathed with short distichous light green leaves. It does best in baskets or pans suspended, and but little if any peat should be used, as it seems to me that the sphagnum moss alone suits it best. Now is a good time to re-pan or top-dress, and it is fond of a good supply of water during the summer months.

Oncidium hastatum is now in flower, and is always greatly admired. I prefer to grow this species in pots. After the flowers are past, and when the new growth is pushing from the base, it may be repotted, if required. It is an Orchid worth the best of attention, and growing well, but it often gets into a bad condition owing principally to the flower spike remaining on too long, or by the treatment being too cold during winter, just when it is growing. It should then have the warmth of the Cattleya house, as should any other Oncidium that has not finished its growth by October.

When repotting Oncidiums use pots of a reasonable size only, as over-potting Orchids is always a very great mistake. The pots should be three parts drained with crocks and charcoal, as the crocks keep much sweeter when intermixed with charcoal. It may seem to many a simple matter to crock a pot, but there is a right and a wrong way even in that, and the plant that is planted in a pot correctly crocked, will last longer in a good and sound condition than when incorrectly done. First place one or two large inverted pieces over the hole at the bottom, then over these a layer broken smaller, while the top and final layer should be about two inches in depth, and broken very small—from half-an-inch to an inch in size so that they lay quite level. I am not as a rule an advocate for mixing crocks and charcoal in with the compost when the latter is of first class quality, but if the peat is poor, having no fibre, then I think it is a good plan to do so, as it greatly facilitates drainage, by keeping the whole open and porous.

Odontoglossum Londesboroughianum is not one of the easiest to cultivate. It grows pretty freely when newly imported, but in the course of a few years dwindles, and often, without so much as producing one single flower spike to compensate for trouble taken, will grow less by degrees until it finally disappears. I have had the best results from the following treatment: In the first place it may be roughly described as being a cool Orchid, but a sun-loving one, and, therefore, it should have an abundance of air, but never be shaded. The plants may be fixed to blocks of wood and so grown suspended, but I do not recommend block treatment generally, greatly preferring baskets or pans, with the usual peat and sphagnum moss as a compost. The moss when first imported may probably be ill-shaped for fixing in a basket. But although its habit of growth is straggling, a way can generally be found out of the difficulty, and the plant finally secured in the basket, which, when done, is much more easily and better managed than a block. During summer, when growth is active, it may be syringed frequently, but during winter a long and very dry rest must be given. The treatment I have previously advised for Barkerias is the best possible one to give to this species. O. madrense is another of the Mexican Odontoglots, and is a very pretty little species. It should be grown in small pans, and, as in the case of O. Rossii, O. Cervantesii, and

most of the other Mexican kinds, should be watered very sparingly.

As it is very necessary to give the plants as much light and sun as possible without causing injury, it will be better now to think about slightly reducing the summer shading. For instance, there are usually many situations where, through various reasons, some kind of permanent shading, such as "summer cloud," is used, just to break the rays of the sun for a short period during the hottest time. This must not be allowed to remain on when it is no longer necessary to serve its purpose. The roller blinds may also be let down later in the morning, and removed earlier in the afternoon.

I am extremely sorry to hear that the Cattleya fly has got such a foothold in some collections. Compared to this arch fiend, other troublesome insects are insignificant. I am also sorry that I am unable to give more precise instructions for its speedy destruction other than already given in previous Calendars, which consists chiefly in watching closely for the infected growths, and by exercising great caution when purchasing new plants; the latter being the preventative policy, is, of course, the best. If any signs whatever of their presence exists on newly imported plants, they should certainly be isolated until they have been thoroughly cleansed, and fumigated several times.

As warmth from the pipes in many departments has not been required for some time, the valves have probably not been turned, oiled, and kept in good working order. When such is the case they invariably become rusty, and will sometimes spring a leak when again touched. These, and other matters connected with the heating apparatus, should be seen to in time, and put all straight and secure, rather than left until absolutely required, when some hitch may occur.

ORCHID PORTRAITS.

BOLLEA CŒLESTIS, Rchb. f. —*Garden*, June 27, p. 487, with fig.

BOLLEA SCHROEDERIANA, Hort. *Garden*, June 27, p. 486, t. 1072.

CATTLEYA MOSSIÆ ARNOLDIANA. *Gard. World*, July 2, p. 12, with fig.

CATTLEYA SCHRŒDERIANA, Rchb. f. *Gard. Chron.*, July 18, p. 73, fig. 15.

CŒLOGYNE VEITCHII, Rolfe. *Gard. Mag.*, June 27, p. 425, with fig.

CYPRIPEDIUM × HARRISIANUM.—*Rev. Hort. Belge*, July, p. 148, fig. 26.

CYPRIPEDIUM × STONEI-SPICERIANUM VAR. GANDAVENSE.—*Rev. Hort. Belge*, March, p. 49, with plate.

DENDROBIUM ARACHNITES, Rchb. f. *Gard. Chron.*, July 4. p. 7. fig. 2.

DENDROBIUM × PALLENS.—*Journ. of Hort.*, May 7. pp. 422. 423. fig. 69.

DENDROBIUM THYRSIFLORUM.—*Garden*, July 11. p. 28, with fig.

EPIDENDRUM BICORNUTUM. *Journ. of Hort.*, July 9. p. 28. fig. 6.

HABENARIA MILITARIS, Rchb. f. *Journ. of Hort.*, July 16. p. 53. fig. 9.

HÆMARIA DAWSONIANA, Rolfe.—*Bot. Mag.*, t. 7486.

LELIA PURPURATA VAR. ASHWORTHIANA. *Gard. Chron.*, July 11. p. 37. fig. 10.

SOBRALIA LEUCOXANTHA. Rchb. f. *Journ. of Hort.*, July 23. p. 77. fig. 12.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

At the meeting of the Royal Horticultural Society, held at the Drill Hall, James Street, Westminster, on July 18th last. Orchids were not as numerous as usual, and a large proportion of the exhibits consisted of cut flowers. A number of interesting things, however, were staged.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), sent a very interesting group, including a well-flowered plant of Dendrobium Maccarthiæ, Lælia Lucasiana, Cattleya Eldorado marginata, approaching C. E. splendens, but the side lobes of the lip margined with rose-purple, a well-flowered plant of the pretty C. Eldorado Wallisii, Polystachya odorata, Epidendrum volutum, Zygopetalum Burtii Wallisii, &c. An **Award of Merit was given to the** remarkable Zygopetalum grandiflorum, and a Botanical Certificate each to Catasetum Russellianum, Oncidium virgulatum, and Masdevallia corniculata.

The Right Hon. Lord Rothschild, Tring Park (gr. Mr. Hill), sent a **very fine six-flowered inflorescence of Cattleya Warscewiczii Shuttleworthii**, to which a Cultural Commendation was given, also C. Gaskelliana alba, and Masdevallia Carderi, the latter receiving a Botanical Certificate.

The Right Hon. J. Chamberlain, M.P., Highbury, Birmingham (gr. Mr. Burberry), sent a fine series of dissimilar varieties of Cattleya **Warscewiczii, and received a Vote of Thanks.**

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr. Mr. Johnson), showed a good plant of Cypripedium Godefroyæ leucochilum, and cut flowers of Cattleya Rex, C. Warscewiczii delicata, C. Schroederiana, C. Gaskelliana, Lælia tenebrosa and L. purpurata, Lælio-cattleya × elegans, and L.-c. × Schilleriana, Cypripedium superbiens, C. Curtisii, C. × Harrisianum superbum, and C. × selligerum majus. **A Vote of Thanks was given.**

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), sent a

profusely flowered group of the handsome little Cochlioda Noetzliana, together with Odontoglossum nebulosum candidum and O. luteopurpureum sceptrum.

C. J. Lucas, Esq., Wanham Court, Horsham, gr. Mr. Duncan, showed a fine series of varieties of Cattleya Warscewiczii, and received a Vote of Thanks.

Edgar Cohen, Esq., Hall Road, St. John's Wood, gr. Mr. Vasse, sent a very pretty light form of Cattleya Mendelii.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, gr. Mr. Murray, sent three good plants of Phaius Humblotii, one of them being the fine rose-coloured variety Henryi: also a fine flower of Cypripedium × Youngianum.

J. Wilson Potter, Esq., Parkhill Road, Croydon, exhibited a fine plant of Aeranthes grandiflorus.

Reginald Young, Esq., Sefton Park, Liverpool, gr. Mr. Poyntz, sent flowers of Cypripedium Stonei candidum and C. × Harrisianum superbum.

Messrs. Hugh Low & Co., Upper Clapton, exhibited Cattleya Mendelii, C. Mossiæ Arnoldiana, and a fine dark variety of C. Mossiæ called "Brilliancy," to which an Award of Merit was given.

Messrs. F. Sander & Co., St. Albans, staged two plants of Spathoglottis plicata Micholitzii, and a splendid specimen of Coelogyne Sanderiana with six fine spikes, to which a Cultural Commendation was given.

At the close of the meeting Reginald Young, Esq., of Sefton Park, Liverpool, explained his system of recording hybrid Cypripediums, and handed to the Secretary a copy of the list which it has been his practice for many years to keep posted up from various sources. It is hoped that this will prove of great service to the Committee in regulating the nomenclature of the numerous hybrids which come before them. A cordial vote of thanks was given to Mr. Young.

At the meeting held on July 28th, the show of Orchids was very small, though several interesting things found their way to the Drill Hall.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking, gr. Mr. White, staged a neat little group, containing Dendrobium revolutum, a good plant of Maxillaria Hubschii with seven flowers, a good dark purple form of Masdevallia infracta with twenty flowers, and a Cypripedium called C. × Charles Stemmetz (C. philippinense ♀ × C. Lawrenceanum ♂), which appears to be the reverse cross of C. Hobsonii, and therefore a variety of the same. An Award of Merit was given to Odontoglossum aspidorhinum, with ten racemes, and a Botanical Certificate to Dendrobium curviflorum, with fourteen flowers.

W. C. Clarke, Esq., Orleans House, Sefton Park, Liverpool, exhibited Cypripedium × Mabeliæ (C. superbiens ♀ × C. Rothschildianum ♂), and

C. Harrisander (C. × Harrisianum superbum ♀ × C. Sanderianum ♂), the latter a handsome thing, to which an Award of Merit was given.

S. Banner, Esq., Sherwood, Sefton Park, Liverpool (gr. Mr. Edwards), exhibited Cattleya granulosa Banneri, a very remarkable variety, in which the sepals and petals were strongly suffused with lurid purple.

Messrs. James Veitch & Sons, Chelsea, exhibited Selenipedium Brysa (S. × Sedeni candidulum ♀ × S. Boissierianum ♂), Cattleya × Atlanta (C. Leopoldi ♀ × C. Warscewiczii ♂), a handsome thing, to which a First-class Certificate was given, and Masdevallia × Ajax (M. × Chelsoni ♀ × M. peristeria ♂), a very pretty hybrid, which received an Award of Merit. A flower of each parent was exhibited for comparison.

Messrs. F. Sander & Co., St. Albans, staged a small and interesting group, containing the pretty little Aganisia ionoptera, Restrepia elegans and R. maculata, Pholidota obovata, a yellow form of Gongora galeata, the pretty little Paphinia Randii, Calanthe × Laucheana, a prettily spotted Odontoglossum crispum, Dendrobium bracteosum, Cypripedium × Massaianum, C × Mabeliæ var. Lord Derby, C. × Patersoni, and C. × A. de Lairesse.

Messrs. Thomas Cripps & Son, Tunbridge Wells, exhibited a splendid group of Disa grandiflora, some four feet long by over two feet broad, containing a large number of plants, mostly with two to four flowers each. **A Silver Banksian Medal was awarded.**

Messrs. W. L. Lewis & Co., Southgate, exhibited two fine forms of C. granulosa, one being a well developed form of the variety Schofieldiana.

M. Seavy, of Camberwell, exhibited a group of artistic photographs of Orchids, comprising about fifteen of cabinet size, mostly Cypripediums, and four large ones; one of them, representing a house of Miltonia vexillaria and Cattleyas belonging to R. J. Measures, Esq., of Camberwell, being **very effective.**

CORRESPONDENCE, &c.

F. H. M., Liverpool. The malformed flower of Cypripedium niveum is probably an accidental occurrence, as flowers are occasionally seen in other species in which the segments remain partially united.

E. H. W., Scarborough. Brassia brachiata.

C. Stoldt. Vanda tricolor, var. planilabris.

G. Bayer. Epidendrum venosum, Maxillaria ochroleuca, and Catasetum viridiflorum.

W. H. R., Camden Wood. The seedling Cypripedium is clearly descended from C. Lawrenceanum and C. superbiens, and is a form of C. × Vervaetianum or C. × Euryale, the two being synonymous.

E. A. B., Oxford. Apparently a fine light form of Cattleya Gaskelliana.

W. E., Newchurch. The creatures sent are leeches, and no doubt came out of the water with which the Cypripediums were watered.

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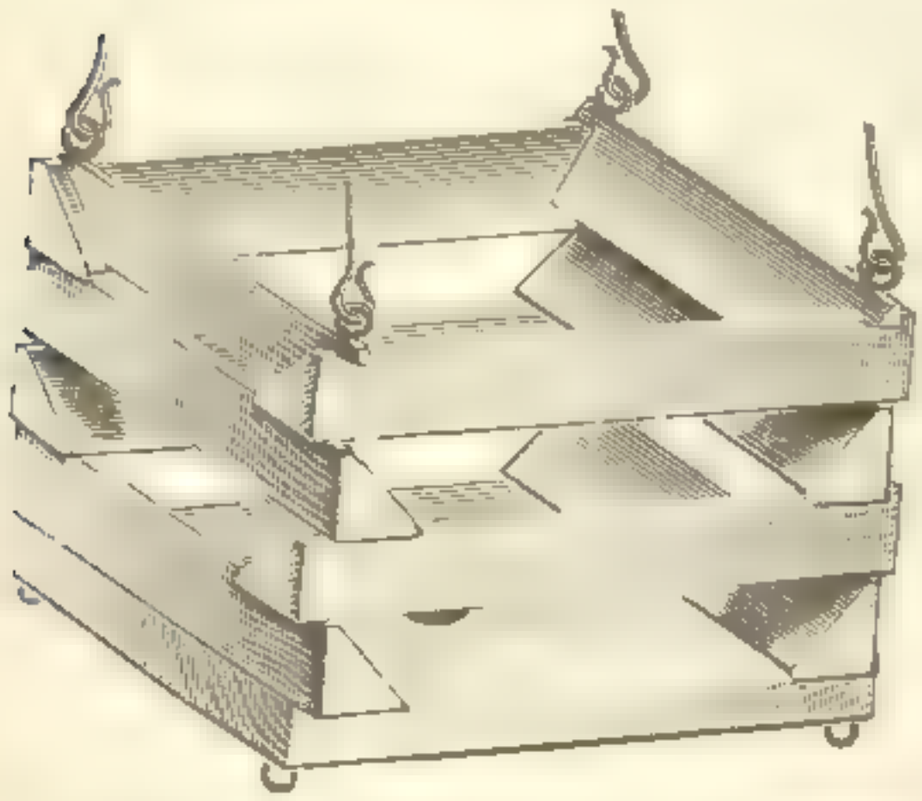

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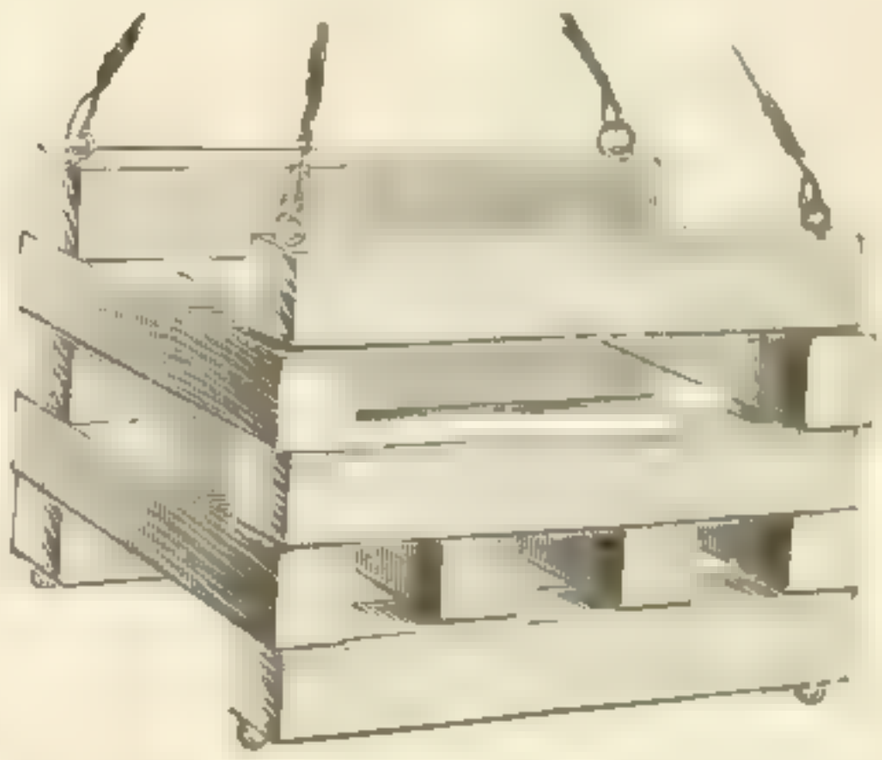

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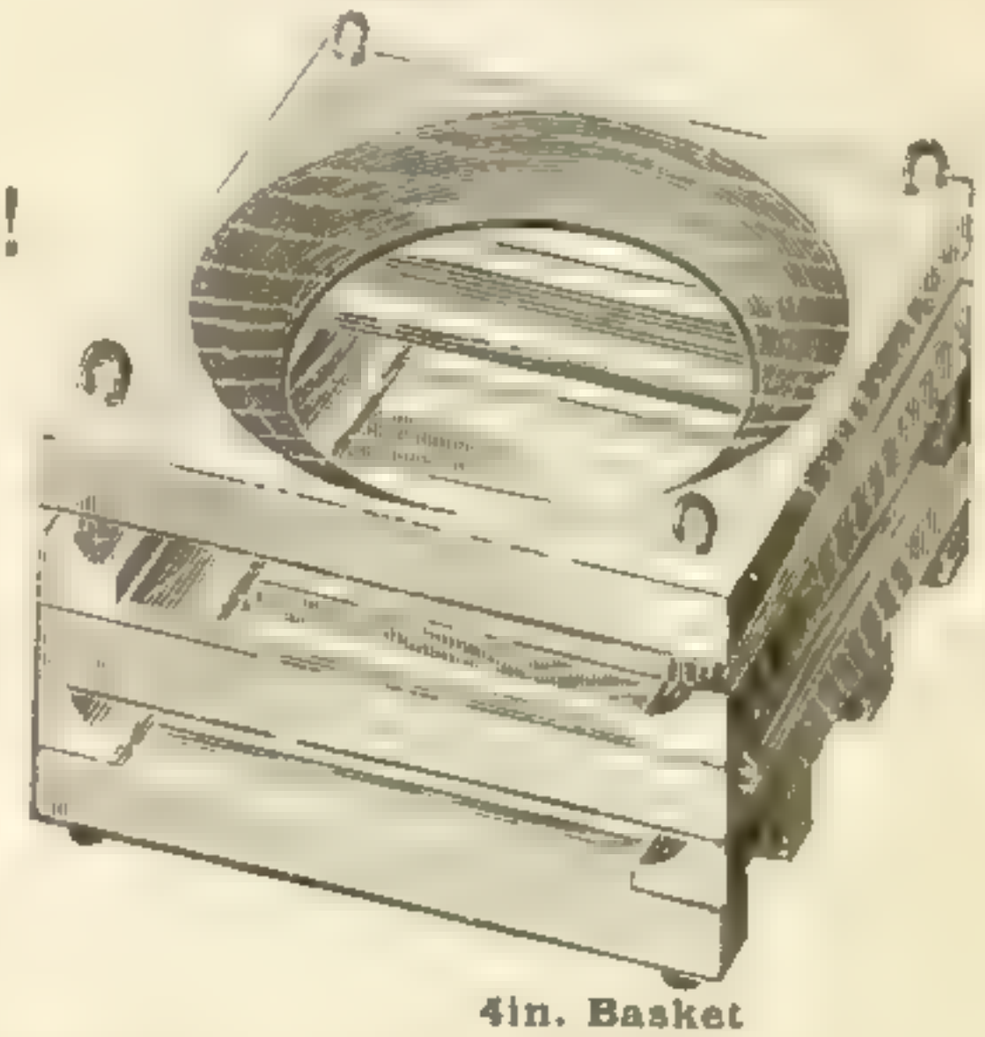

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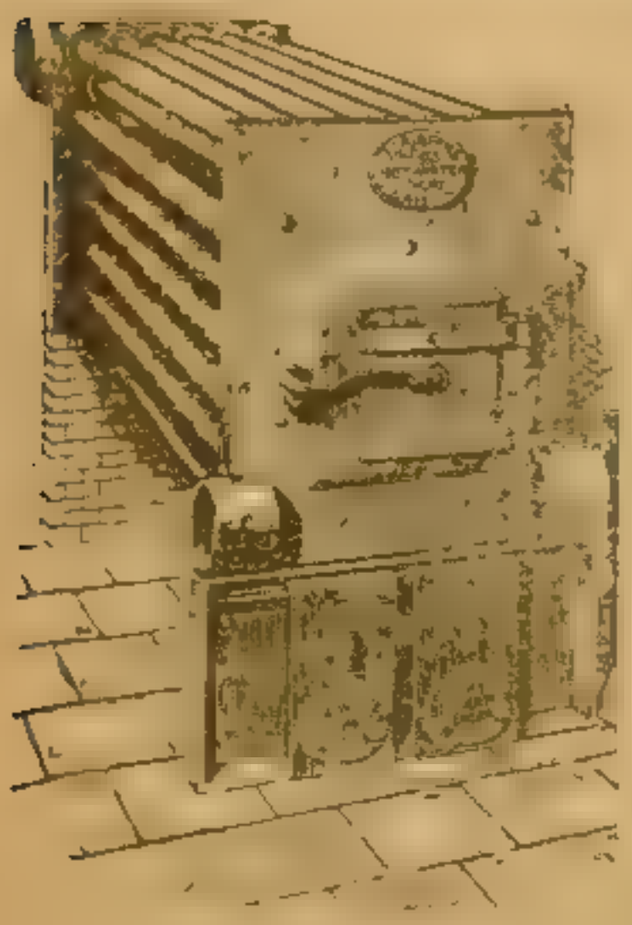

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VOL. IV.] *SEPTEMBER*, 1896. [No. 45.

NOTES.

THE next meeting of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, on September 8th, when the Orchid Committee will meet at the usual hour of 12 o'clock, noon. This will be **the only meeting during September.**

We regret to learn that the well-known Orchid collection of Charles Winn, Esq., The Uplands, Selly Hill, Birmingham, is to be distributed, Mr. Winn being relinquishing their cultivation owing to ill-health.

Mr. Winn is one of the oldest Orchid cultivators in this country, and for the last thirty-five years he has been an enthusiastic collector of rare varieties, and a most successful cultivator. During the latter part of the time he has paid much attention to hybridising, and the collection contains a large number of seedling Dendrobiums, Cypripediums, and others of choice parentage, some of them probably unique. An account of this interesting collection is given at page 261 of our second volume.

The collection has been purchased by Messrs. Charlesworth & Co., of Heaton, Bradford, who, we believe, will distribute the plants within the next few weeks, thus affording amateurs of Orchids an opportunity of acquiring some choice things. We hope that under the process of distribution the records of parentage of the numerous promising seedlings will not be lost.

A very fine flower of Lælio-cattleya × callistoglossa has been sent from the collection of T. Statter, Esq., Stand Hall, Whitefield, Manchester, by Mr. Johnson. It is one of the oldest and best of the group, combining well the characters of its parents, Lælia purpurata and Cattleya Warscewiczii.

A large dark form of the handsome Dendrobium Phalænopsis is also sent from the same collection, like the preceding, showing evidence of very good culture. This Dendrobium is specially valuable on account of its flowering so freely during the autumn months, when flowers are less plentiful.

A fine flower of the handsome Lælio-cattleya × exoniensis has been sent from the collection of D. B. Rappart, Esq., of Liscard, Cheshire. The characters of Lælia crispa are, as usual, very apparent, and it flowers about the same season of the year. Although the earliest of the Lælio-cattleyas – it flowered for the first time in the autumn of 1863 – and still one of the best, we do not remember to have heard of any later batch of seedlings being raised. Cattleya Mossiæ is reported to have been one parent, but there remains a little uncertainty whether it was this or C. labiata, as the former seldom blooms at the same season as Lælia crispa, which was certainly one parent, and not L. purpurata, as was long supposed. We should like to hear if anyone has repeated the above crosses.

We learn with interest that Mr. F. J. Le Moyne, of Chicago, is trying to make a complete collection of Sobralias. Most of the species are very handsome, though owing to their fugitive flowers and, in some cases, large size, they are not so much cultivated as they otherwise would be. The former defect is to some extent compensated for by the succession of flowers which they bear. When seen in masses in their native homes they are among the most beautiful of Orchids, as various travellers have borne witness.

A three-flowered inflorescence of the magnificent Disa grandiflora has been sent from the collection of Mrs. Barclay, The Briars, Reigate, by Mr. Bailey. The sepals are of the most brilliant scarlet, and the largest measures over $2\frac{1}{2}$ inches long by 19 lines broad, while the dorsal sepal is correspondingly well developed. It is one of five plants in a 48-sized pot, and the strongest plant carried five flowers. Mr. Bailey states that the plant has been grown there 13 years to his knowledge, and the two facts speak volumes for the soundness of the treatment adopted. It is a splendid example of good culture.

We have received a splendid five-flowered inflorescence of the beautiful Lælio-cattleya × Brymeriana, from the collection of Colonel Brymer, M.P., Ilsington House, Dorchester, to which a First-class Certificate was given at the Royal Horticultural Society's meeting on August 24th last. Its parents are Lælio-cattleya × amanda ♀ and Cattleya Warscewiczii ♂, whose characters it well combines, the lip being very densely and beautiful veined with crimson-purple on a lighter ground. It was originally described at page 21 of our first volume.

A flower of the beautiful Cattleya Lueddemanniana has been sent from the collection of D. B. Rappart, Esq., of Liscard. The lip is very prettily veined, somewhat as in C. Mossiæ, though it differs in its comparatively broad petals and narrow lip, and in its habit of flowering on completion of the young growths.

Habenaria polytricha, Rolfe, is a remarkable new species from Formosa, which is figured in a recent issue of the *Icones Plantarum* (t. 2496). The petals are not only divaricately bilobed, as in the section Ate, but each lobe is again divided, the upper half into two long filiform lobes, and the lower one into four. The lip is also broken up into numerous filiform lobes. It belongs to the group called Medusæformes, which contains only two other species, M. ternatea, Rchb. f., from the Moluccas, and M. andamanica, Hook. f., from the Andaman Islands.

We have received the seventh Annual Report of the Missouri Botanical Garden, founded under the bequest of the late Henry Shaw, which forms a handsome volume, containing several important illustrated papers. In the Report of the Director, Mr. William Trelease, it is stated that among the additions to the plants cultivated under glass—"a small but carefully selected collection of Orchids has been placed in the house built in 1894, so that with good management there will scarcely be a time during the year when one or more of these interesting plants cannot be found in bloom, while in the latter part of the winter a considerable number are open together. This collection will be extended considerably from year to year, my intention being to devote the greater part of this house to a varied collection of Orchids. The garden has now in cultivation 156 named species or varieties of greenhouse Orchids." An illustration of a fine plant of Cattleya luteola on a block is given at page 123, and of Chysis bractescens in a group of other things at page 23, but we find no reference to them in the text.

A very curious flower of a good form of Odontoglossum × Coradinei has been sent from the collection of W. Campbell, Esq., of Kennishead, near Glasgow, by Mr. H. Reid, in which there is a small additional lip nearly in front of the normal one, and slightly adnate to the base of the column at one side. It is quite perfect in shape and colour, but not half the size of the ordinary one. The rest of the flower is quite perfect, and the segments short and broad. It came out of one of Messrs. Lewis's importations.

A twin-flowered scape of a hybrid Cypripedium raised from C. barbatum grandiflorum ♀ and C. Boxallii ♀ has been sent from the collection of

Reginald Young, Esq., Sefton Park, Liverpool. It is a good form of C. × apiculatum, and the spots of C. Boxallii are well shown. In the lower flower the lateral sepals are free, a character occasionally seen in this genus.

A plant of Cypripedium Godefroyæ, in the same collection, is now bearing ten fine flowers, and as the plant was purchased in September, 1888, it is evident that the treatment set forth by Mr. Young, at page 45 of the present volume, is the correct one. The species of this group grow and flower freely enough under proper treatment.

Flowers of the charming little Odontoglossum × aspersum violaceum have also been sent from the same collection. The front lobe of the lip is suffused with light purple, and the petals broadly margined with a deeper shade of the same, while the sepals and the base of the petals are barred with deep brown. It is a very brilliantly coloured form.

A very beautiful flower of Cattleya Eldorado virginalis comes from the collection of E. J. Sidebotham, Esq., Erlesdene, Bowdon, Cheshire. The plant is a newly-imported one, and bore a spike of three flowers. The sepals and petals are pure white, and the throat deep orange. The history of the species was given at page 301 of our second volume.

Trichocentrum longicalcaratum (Rolfe) is a remarkable little species now flowering in the rich collection of Sir Trevor Lawrence, Bart., Burford, Dorking. The flowers are white, slightly tinged with pale green, the disc of the lip yellow with two orange keels and a small maroon blotch at their apex. The column is short and broad, with fimbriate wings, and a purple pubescent anther-case. The spur is 1¾ inches long, nearly three times as long as the rest of the flower. It has recently been named at Kew.

A photograph of a fine plant of Selenipedium caudatum Wallisii has been sent from the collection of W. C. Clarke, Esq., Sefton Park, Liverpool, showing three spikes, each with three flowers. Mr. Clarke thinks from the new growths that it will have twice as many flowers next time.

Reverting to our article on Cattleya × Hardyana at page 241, we learn that the handsome varieties Statteriana and Countess of Derby were obtained from the importations of Messrs. Charlesworth & Co., of Heaton, Bradford; also the fine Selwood variety, which realised the highest individual price at the Selwood Sale, namely, 140 guineas. In 1889 a plant of C. × Hardyana and two of the variety Massaiana flowered in the collection of E. G. Wrigley, Esq., Howick House, Preston, which realised at the sale 95, 90, and 60 guineas, respectively. These also were from Messrs. Charlesworth's importations. It is always interesting to know the origin of choice varieties of any kind.

A very pretty form of Oncidium macranthum has been sent from the collection of M. J. Ragot, Villenoy, near Meaux, France, in which the sepals are not much darker than the petals, being only lightly suffused with dusky brown. The inflorescence, also, is but little over two feet long, and the flowers seven in number and rather crowded at the apex, probably because not fully developed.

An excellent photograph of a fine inflorescence of Mormodes luxatum has been sent from the collection of A. W. Wills, Esq., of Claregate, Wylde Green, Birmingham. The length of the inflorescence is 13½ inches, and its greatest breadth 8½ inches, while the flowers number 23. Mr. Wills remarks: "This species, one of the most beautiful of Orchids, has the reputation of being difficult to flower. My record, however, does not justify this opinion, being as follows: Bloomed 1891, 1892, and 1893; rested 1894: bloomed 1895 and 1896." The inflorescence is very beautiful, and we congratulate Mr. Wills on his successful treatment, of which we should be glad to receive a few particulars.

A good photograph and dried flower of a Stanhopea are sent from the collection of Dr. A. W. Hoisholt, Stockton, California. The plant was collected in the extreme South of Mexico, near the Guatemalan frontier, last November, and has now produced a raceme of four flowers. It proves to be S. oculata, Lindl. Dr. Hoisholt remarks that the flower was dried in silver sand according to the directions given at page 223 of our first volume, and owing to its fleshiness the shrivelling is extreme. Still the shape of the parts and the spots are so well preserved as to enable any one to recognise it immediately. It is a very handsome species, and it is very unfortunate that the flowers do not last longer. Good photographs of the favourite Odontoglossum citrosmum and Miltonia vexillaria are also sent.

CYPRIPEDIUM × PETRI AND VAR. BURBIDGEI.

THE article appearing in the last number of the *Orchid Review* (page 247) on Cypripedium × Petri and var. Burbidgei is distinctly interesting, and the conclusion arrived at appears so reasonable that I have adopted the same, and added both C. × Petri and × C. Petri var. Burbidgei to my list of hybrids, as a cross between C. Dayanum and C. virens. I presume that the C. virens intended is the C. javanicum var. virens of Veitch's *Manual of Orchidaceous Plants* (iv., page 35). Curiously enough, neither C. javanicum nor C. virens are mentioned in Williams' *Orchid Grower's Manual*, except that the former is given as one of the parents of C. × javanico-superbiens. I agree with the suggestion that someone might make the experiment

of crossing C. Dayanum and C. virens together, as the result would serve either to corroborate or to disprove the conclusions arrived at.

Still, four or five years is a long time to await the result, and in the meantime I would suggest that a bloom of C. × woodlandense be sent to you by whoever has the pleasure of next flowering it, for inspection and report.

This hybrid appears to have been raised by Messrs. Sander & Co., and is recorded in Mr. Chapman's list of Hybrid Cypripediums (*Gard. Chron.*, 1895, xvii., p. 199) as C. Dayanum ♀ C. virens ♂, and in the *Orchid Hybrids* by G. Hansen (page 183) as C. Dayanum × javanicum virens.

REGINALD YOUNG.

15th August, 1896.

STANHOPEA WARSCEWICZIANA.

THE re-discovery of a long-lost species is always a very interesting matter, and it is curious what a number of Orchids are only known from a description published long ago, and often very imperfect, so that it is not always an easy matter to identify them. In the case of the above Stanhopea, which has now flowered in the collection of J. D. Hodgson, Esq., Newcastle-on-Tyne, from a plant received from Costa Rica two years ago, there was a figure of the original plant in existence, and I have long been anticipating its re-appearance; as also of one or two others, which will probably turn up again some day. The present one was originally discovered by Warscewicz on Mt. Chiriqui, Central America, and flowered in the nursery of Herr Matheu, at Berlin, in July, 1852, and was shortly afterwards described by Klotzsch as S. Warscewicziana (*Allg. Gartz.*, xx., p. 274). A figure was afterwards given by Reichenbach (*Xen. Orch.*, ii., p. 85, t. 125), after which the plant appears to have been lost sight of. This figure shows the whole flower of a bright deep yellow, with the exception of the column, while that of Mr. Hodgson's plant is much lighter, though identical in structure, from which it appears that the species is somewhat variable in this respect. So many of the figures of this work, however, are so badly coloured that one cannot place too much reliance on the difference named. The species is allied to S. insignis, Frost, the hypochil being quite globose, as in that, but the flower is much smaller and differently coloured. The sepals and petals are about two inches long, very light yellow and unspotted, and the lip is still paler, the hypochil being very pale yellow, with a very light purple blotch on either side, and the rest of the lip nearly white. The pair of acute keels on the sides of the hypochil describe a semi-circle. The column is slightly over 1½ inches long, and broadly winged almost to the base, the apical teeth being triangular and acute. The flowers have a strong aromatic perfume.

R. A. R.

DIES ORCHIDIANÆ.

THE case of the variety or sport of Cypripedium × Harrisianum in the Law Courts, reported at page 230 of your last issue, raises a rather curious question; but there is a lack of detail in the report, which makes it difficult to form an opinion on the merits of the case. It appears that Messrs. Sander saw certain peculiarities of colouration in a variety of C. × Harrisianum, which induced them to give the comparatively high price of a thousand francs for it: but that when it flowered again these peculiarities were not present. What their nature was does not appear, nor is it recorded whether the plant was a seedling flowering for the first time, or a portion of some older plant which had originated as a sport, like the curious forms of C. × Dauthieri, which have been described in the *Revue*. Again, it is not recorded what the flowers were like the next year, only that they were of an inferior character. And these little details are just what one would like to know. It is not suggested that the vendor of this crafty plant was aware of its tricks, and took advantage of an innocent purchaser, otherwise the case might appear different. It has sometimes been recommended that in order to avoid being taken in, people should purchase their plants in flower, but the present case suggests that even plants in flower may not always prove to be what they seem. Such cases, however, are fortunately not common, though if the plant is a genuine sport it may again surprise its present possessor in a more agreeable way. Sports are just those things which appear when least expected, and which no one will be answerable for when they do come, though in most cases they prove permanent, and whatever their subsequent behaviour, they are invariably regarded with interest. I should like to know a little more about the history of the one now under consideration.

It seems quite possible that sports among Orchids may become more common in future, as hybridising progresses. It now seems to be generally agreed that it is chiefly, if not altogether, among plants which have been much crossed that they occur, and some recent hybrids are of very mixed parentage, especially among Cypripediums. And this is likely to be increasingly so in future. The theory is that under certain conditions the blood of the different parent species tends to become dissociated, hence the production of a bud with different characteristics to that of the plant which produced it, and this, on development, gives rise to a new form. Complete dissociation seldom or never takes place, otherwise a hybrid might be found sporting back to its original parent species: but partial reversion takes place, as is seen in the curious Cypripedium × Dauthieri Rossianum, which is more striped than the typical C. × Dauthieri from which it originated.

and thus shows a partial reversion to the character of C. barbatum, one of the original parents. There is also a striped form of C. × Harrisianum, but whether it arose as a sport or otherwise I cannot say. No doubt other cases will be duly recorded as they appear.

The figure and history of Cattleya × Hardyana came very opportunely in the last number (page 241), when everybody is watching their newly-imported C. Dowianas in hopes of finding this handsome natural hybrid among them. I believe that at one of the sales at Protheroe and Morris's Rooms some time ago a gentleman was present who had made a study of the characters of growth of this hybrid and its parents, and who purchased quite a number of plants which he thought looked most likely to be C. × Hardyana. That gentleman, of course, is a good reader of his *Reader*, and I hope he will let us know what good fortune attended his efforts. And I should not be surprised to hear that in some quiet corner he has a little batch of home raised seedlings, which are sure to be all right, though it requires a good deal of patience to wait until they are large enough to flower. It is remarkable what a number of plants have appeared in the course of about ten years, and also how distinct many of them are. It is pretty evident that where the two parent species grow together, the pollen is carried about indiscriminately by the wild bees which fertilise them, and a good many pods of crossed seed must be the result, or the hybrid would not be so common as it is. It seems quite likely that a number of other brilliant forms will turn up in the course of the next few years, though I hope that each one will not be furnished with a separate name, whether it deserves it or not. And the enumeration of the different varieties given last month will enable those who are fortunate enough to flower additional plants to ascertain if they agree with those already named. In the absence of such a list it is difficult to search out all the scattered references, which perhaps partly accounts for the deplorable confusion which occurs among the varieties of some of our most popular Orchids.

The illustration of the charming little group of Habenarias, given at page 209 of the July number, reminds me how beautiful some of these terrestrial species are, and it is fortunate that their merits have been more recognised during recent years. Quite an interesting collection could be got together, many of which present no cultural difficulties if ordinary care is exercised, though some have a disappointing way of taking French leave during the supposed resting period; and even this is partly due to neglect or improper treatment. Among the best of recent acquisitions are the hybrid Disas,

which have assuredly come to stay, so beautiful and so easily grown have they proved. And with them must be classed the parent species, including "the peerless Disa grandiflora, the Pride of Table Mountain," which, when it succeeds well, is still unsurpassed in cultivation, though it does not succeed everywhere for some reason. Then there are several Satyriums worthy of cultivation, the handsome Stenoglottis longifolia and S. undulata, and even some of the European Orchises are easily grown and very handsome. And there are the hardy Cypripediums, several of which do well in pots, and are very gay during the early summer. But there is no need to draw up a catalogue, as many of them are well known. Reverting again for a moment to the Disas, it is probable that other acquisitions will soon be forthcoming, as further crosses have been attempted, and such promising little plants are sure not to be neglected.

It is interesting to note that an importation of the handsome Renanthera Imschootiana has been secured. Were it not so recent a discovery I should think that this must be the scarlet Vanda which was reported some years ago. Out of flower, it is more suggestive of a Vanda of the coerulea group than a Renanthera, and if it blooms as freely as appearances seem to indicate, it will be a great acquisition. Hitherto it has been too rare to form an opinion, though Mr. Woodall's plant, exhibited some time ago at one of the Royal Horticultural Society's meetings, affords pretty conclusive evidence of its true character.

ARGUS.

THE HYBRIDIST.

CATTLEYA × SUPER-FORBESII.

UNDER this remarkable name is described a very pretty hybrid which was shown at the last York Gala by Mr. James Cypher, Queen's Road Nursery, Cheltenham, and received an Award of Merit. The parentage is recorded as C. Forbesii × superba. The habit and general shape of the flower approach nearest to C. Forbesii, but in the colour, the more expanded side-lobes of the lip, and the texture of the flower, the influence of C. superba is said to preponderate. The sepals and petals are creamy white, tinged with rose, and green at the tips, while the lip is yellowish white with brownish yellow raised lines, and the side lobes rose-purple inside and veined outside with the same colour. The front lobe is rose-purple, with some yellow in the centre, as in C. superba. (O'Brien in *Gard. Chron.*, July 25th, p. 90.

EPIDENDRUM PLICATUM.

In 1847 a very handsome Epidendrum was described and figured under the above name by Dr. Lindley (*Bot. Reg.*, XXXIII., t. 35), which had been introduced from Cuba by Messrs. Loddiges, and flowered in their establishment in the previous July. Since then it has been almost lost sight of, and it is interesting to note that a plant has flowered in the collection of Mr. T. L. Mead, Oviedo, Florida, which was brought by a tourist from Florida. It belongs to the Encyclium group, in which the lip is free from the column, and is nearly allied to E. ceratistes, Lindl. Lindley described the lip as rich crimson, also the petals at the back, but the sepals and inside of the petals green, the former just warmed and the latter richly spotted with crimson. Mr. Mead remarks that the scape is two feet long, and the lip in colour like Lælia autumnalis, passing to white in the centre; the petals greenish golden-buff with maroon tips, and the outer surface sprinkled with buff; and the sepals buff, like the petals, but only edged with maroon mottlings, and the reverse surface also dusted with maroon. Like many others it is probably variable in colour, and is one of the comparatively few handsome species grown.

BOTANICAL ORCHIDS AT KEW.

One of the prettiest Botanical Orchids now flowering at Kew is Cynorchis grandiflora, a terrestrial Madagascar species, whose history was given at page 59 of our first volume. Its large purple four lobed lip and green sepals marked with purple-brown are very distinct and attractive, and it grows well with other terrestrial species. Spiranthes grandiflora is a well-known old species, with spikes of large green flowers, which is found in a few collections. Spathoglottis plicata and a very pretty dwarf variety called Micholitzii must also be enumerated. The latter is a distinct improvement on the type, the dwarfer habit being very marked, while the flower is rather larger, and of the usual bright purple colour. It was imported by Messrs. Sander. Several plants of the pretty little yellow S. Fortunei are also very effective. Sobralia sessilis is also flowering, and the blooms are very handsome for one day, after which they shrivel, to be succeeded by others a few days later.

Masdevallia floribunda answers very well to its name, for two or three plants are now a mass of flowers, and when thus grown is very pretty. It regularly flowers in this manner about this time of year. M. Carderi and M. Reichenbachiana are also very pretty. Pleurothallis platyrachis is a very distinct Costa Rican species with curiously flattened stems and orange-buff flowers. P. picta is a dwarf tuft of leaves crowded with short single-

flowered scapes of brown and yellow flowers. P. velutipes, with long racemes of green flowers, is also in bloom. Odontoglossum Krameranum is a dwarf and pretty little species from Costa Rica, and O. auriculatum a rare plant, which came home with O. naevium some years ago. Oncidium pumilum has small dense panicles of yellow flowers. The pretty little Sigmatostalix radicans is a very interesting and pretty little species belonging to this group. Trichopilia hymenantha, one of the smallest species of the genus, is also in flower.

Of Catasetums may be mentioned C. macrocarpum and C. tabulatum, the latter a very interesting plant; and of the Dendrobium group, D. alpestre and Cirrhopetalum guttulatum, two pretty little Himalayan species. Bulbophyllum vitiense, a native of Fiji, and the pretty little Siamese Eria disciflora, the largest-flowered species in the genus. Coelogyne corrugata and Gongora galeata are also among the interesting Botanical Orchids of this season.

ORCHIDS UNTRUE TO NAME: A LAWSUIT.

A CASE which is important both to purchasers and vendors of Orchids came before his Honour, Commissioner Kerr, at the City of London Court, on Tuesday, August 4th. The plaintiff was Mr. D. B. Rappart, Promenade, Liscard, Cheshire, and the defendants the Executors of the Estate of the late Mr. G. D. Owen, of Selwood, Rotherham. The former gentleman purchased at the auction sale of this well-known collection of Orchids several choice and valuable species and varieties, part of which upon flowering proved untrue to name, and of little value: and not feeling disposed to stand by such a bargain, he made application for the high prices paid to be refunded. This request being met by refusal, the plaintiff decided to bring an action to recover his rights. For the plaintiff there appeared two well-known and qualified experts, who testified to seeing the plants in flower, and that they were not true. A third expert also appeared, who could testify that no variety of Orchid would alter its character by changing into another variety. Verdict for the plaintiff, with costs.

The Orchids mentioned in the case were three:—Cattleya Skinneri alba, which proved to be an ordinary coloured form of the species: Odontoglossum × elegans, which turned out a poor form of O. Halli: and Dendrobium × splendidissimum grandiflorum, said to have been only D. × Leechianum. Generally speaking, mistakes of this kind are acknowledged by the seller, and compensation in some form or another given, and had the defendants been well advised, the present case should not have been allowed to come into Court.

H. A. B.

NOTICE OF BOOK.

Icones Orchidearum Austro-Africanarum extra-tropicarum; or Figures of extra-tropical South African Orchids. By HARRY BOLUS, F.L.S. Vol. I., part 2. tt. 51—100. London: William Wesley & Son, 28, Essex Street, Strand.

A NOTICE of the first part of this valuable work appeared at page 270 of our first volume, and now we are able to welcome the second, which has just made its appearance. It contains a series of fifty partly coloured plates, from drawings by the author, illustrating a selection of the Orchids of South Africa, many of which are very remarkable in structure. The figures comprise eleven species of Disa, eight each of Satyrium and Disperis, four of Habenaria and Pterygodium, three of Angræcum, Mystacidium, and Platanthera, two of Brachycorythis, and a single example of Eulophia, Pachites, Schizodium, and Zeuxine. The last-named, Zeuxine cochlearis, Schlechter (t. 58), is very interesting, being allied to Z. sulcata, Lindl., from India and China, and the genus new to South Africa. Eulophia calanthoides, Schlechter (t. 51), it may be noted, is drawn from a specimen which flowered at Kew in June, 1893, but has been identified with wild dried specimens. The handsomest species figured, probably, is Disa purpurascens, Bolus (t. 80), one of the blue Disas which it was hoped some time ago would prove amenable to cultivation, though the one introduced seems to have again been lost sight of. Disa sanguinea, Sander (t. 80), has deep crimson flowers, which are rather small, and arranged in a short, dense, cylindrical spike. Schizodium antennifera, Schlechter (t. 88) is a very remarkable species in which the petals and lip are extended into dark purple spreading tails, giving the flower a remarkable insect-like appearance. This genus, it may be noted, was suppressed in the former part of the work, but is now again revived, while a somewhat similar remark applies also to Mystacidium. Brachycorythis ovata, Lindl. (t. 62), has purple, "delightfully fragrant violent-scented flowers," which are arranged in a dense cylindrical spike, and would be worth introducing to cultivation. Satyrium sphærocarpum, Lindl. (t. 75), and S. longicauda, Lindl. (t. 70) are already known in gardens. Disa aconitoides, Sander (t. 79) is well named, as the resemblance to a dwarf Aconite in the scape, as well as in the shape and colour of the flowers, is striking. The flowers are lilac, with a few darker spots.

A very curious purple-flowered Disperis is figured under the name of D. stenoplectron, Rchb. f.? (t. 90), with the following significant remarks:—"It is impossible to know certainly whether this is Reichenbach's plant. The description of a species of so complicated a structure by the use of few words is difficult, if not impossible: and that by the author of this plant is far too brief. In such a case the student ordinarily refers to the type specimen;

but this is effectually precluded by the terms of Reichenbach's will, by which his whole collection remains sealed at Vienna for twenty-five years from the date of his death. It is a question whether the botanical world generally would not have promoted the true interests of the science, and discouraged similar unworthy vagaries for the future, by agreeing at the recent Genoa Congress that the usual rule of priority in nomenclature should not hold good in any case where the only type specimen existed in Reichenbach's herbarium, and where no other specimen named by him was available for reference elsewhere. At present it can only be said that this is probably Reichenbach's plant." Pterygodium Newdigatæ, Bolus, t. 900, is remarkable for having a cleistogamous form, which is also represented. This is noted as abundant, while the normal form is rare. This cleistogamous form is very curious. "No opened or punctured flower has, as yet, been observed: no pollen has in any case been found upon the stigma: yet the ovaries have swollen, producing abundance of seed, and Dr. Schoenland, who examined them, found the seeds to contain a perfect embryo. The question remains, 'How is the fertilisation effected?'" We can only suggest that at some stage before the buds are fully developed the pollen-tubes begin to grow, and find their way to the stigma, thus effecting fertilisation, after which the development of the other organs of the flower is arrested, as in the case of other cleistogamous flowers, while in the unfertilised flowers they continue to develop in the normal way until mature. As regards the plates generally it may be said that they will be invaluable as aids to the identification of these interesting but difficult plants. Future parts will be awaited with interest, and we venture to express the hope that in time most of, if not all, the South African species will be represented by a good figure.

An appendix to the work enumerates thirteen additions to the same author's *Orchids of the Cape Peninsula*, published in 1888, making a total of 115 species known from the Cape Peninsula, a tract of land about 40 miles long and varying from three to eleven broad—about a fourth larger than the Isle of Wight—which is a remarkably large number for so small an area.

The third part devoted to the Orchideæ of *Martius's Flora Brasiliensis*, by Prof. Cogniaux, has appeared, and is devoted to the Pleurothallæ—or, rather, to part of that group. It contains four species of Cryptophoranthus, seventeen of Masdevallia, seven of Physosiphon, forty-four of Stelis, two of Scaphosepalum, and about half the genus Pleurothallis, which from the synopsis is seen to number 220 species. Lepanthes, Restrepia, and Octomeria stand over for the next part. As before, a number of species are included which have not yet been found in Brazil, though it is anticipated that some day they may be detected there. Thus, no less than nine of the

seventeen Masdevallias are not yet known from Brazil, while the genus Scaphosepalum, of which two species are included, has not yet been detected there. Thus the totals given cannot be taken as representing the number of Brazilian species actually known. The plates of this part extend from numbers 76 to 98, on which nearly a hundred species are represented. The general character of this valuable work has already been indicated, and we hope in time to see it brought to a satisfactory completion.

AN AMATEUR'S NOTES.

THE end of summer is about the dullest season of the year for Orchid blooms, but I find a fair sprinkling of handsome species in flower in the different houses. The beautiful Cattleya Eldorado is just now at its best, and the pure white variety Wallisii is particularly charming. C. Luedde-manniana, too, is carrying some of its large and handsome flowers. C. superba and C. Loddigesii are also flowering well, and C. Leopoldi is bearing several large trusses of its finely-spotted flowers. Lælia crispa is always handsome, and just now is coming on well, together with several pans of the charming little Lælia Dayana, which is about the best of the dwarf kinds. Lælio-cattleya × Schilleriana is also at its best, and the equally beautiful L.-c. × elegans is coming out well. Both are invaluable at this time of year. In this house are also beautiful plants of Miltonia spectabilis and its richly-coloured variety Moreliana, which deserve to be grown in quantity, so useful are they at this season.

Nothing can exceed the brilliancy of colour of the old Disa grandiflora when it does well, and the contrast with a fine dark Vanda cœrulea is really most effective. Another blue Orchid which is now very charming is Rhynchostylis cœlestis, generally grown under the name of Saccolabium cœleste. Near it are Phalænopsis cornu-cervi, pretty, but not showy, the handsome Aerides Lawrenceæ, the pretty little Angræcum Scottianum, a good Ansellia africana, and a fine plant of Cycnoches chlorochilon, which completely scents the house in the early morning. Selenipedium × Sedeni and its varieties are just commencing to flower on a number of new spikes just thrown up, and are now very handsome, and the same remark applies to S. × calurum. These useful plants flower during the greater part of the year. Cypripedium Dayanum is also flowering well, together with numerous hybrids, of which C. × Ashburtonæ and C. × Io are very effective.

Among the few handsome things in the Cool-house, Oncidium varicosum is just now one of the showiest, while the coral-red Rodriguezia secunda and Cochlioda vulcanica are both very charming. Other showy plants are Epidendrum nemorale and Odontoglossum bictoniense, together with one or two mentioned in previous notes.

CYPRIPEDIUM EXUL.

THE appearance of the handsome variety of Cypripedium Exul, for which Major Joicey, of Sunningdale Park, received a First-class Certificate on April 7th last, and of the richly coloured C. E. aureum in the collection of W. M. Appleton, Esq., of Weston-super-Mare (noted at page 162), has again called attention to the species, which is proving rather more variable than at first supposed, and now that it has become established in cultivation it may be seen to better advantage, as hitherto it has had the character of being rather shy flowering. It was originally described by Mr. Ridley under the name of C. insigne var. exul (*Gard. Chron.*, 1892, xi., p. 64), the author remarking :—"This is a native of Nepal, so it was surprising to me to obtain from a native collector a large quantity of a species closely resembling it from so far south as Siam. It is very distinct as a variety, both in form and colouring. The leaves are shorter and more crowded: the scape shorter, the flower rather smaller than that of the typical form. The general colouring is similar to that of the Nepal plant, but the white margin of the standard runs right down to the base; the purple spots are crowded into the middle of the apple-green centre. The petals and lip much resemble those of the Indian forms, but the lip is more yellow. The shield is different in shape; instead of being cordate with a notch in the apex, it is almost ovate, with, at the most, a depression at the top. It is decidedly a charming plant, of very neat habit, and appears to be very floriferous. It will, I think, be welcomed by the lovers of Cypripedia. A considerable quantity was brought into Singapore, and a number of plants have ere this found their way to England." A plant was exhibited at a meeting of the Royal Horticultural Society on April 12th, 1892, under the name of Cypripedium insigne siamense, from the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell, and being referred to Kew for determination, re-appeared a week later (April 19th) under the name of C. Exul, Rolfe, with a note to the effect that it was the C. insigne var. exul mentioned above, but evidently a distinct species nearer C. Druryi in several respects. An Award of Merit was then given, and a note appeared in the *Journal of Horticulture* for April 21st (page 301), in which its distinctness was briefly pointed out. Two days later a description by Mr. J. O'Brien appeared in the *Gardeners' Chronicle*, together with a figure (1892, xi., pp. 522, 523, fig. 77). A figure appeared also in *Lindenia*, whence the following note on its distinctness is extracted: "Last autumn I saw a large importation of this particular plant, together with a coloured drawing. In the former I could not see any evidence of C. insigne, though the drawing certainly bore a considerable resemblance to that species, yet there were certain discrepancies which I could not understand. And now, having seen

a plant which has flowered in the collection of R. I. Measures, Esq., . . . it only confirms my suspicion that we have a distinct species, and not a variety of C. insigne, to deal with. C. insigne and its numerous varieties have spreading leaves, while the Siamese plant has more or less erect leaves, which, with other differences, render the two quite dissimilar; and no one seeing the Siamese plant out of flower would think for a moment of C. insigne, but rather of a narrow-leaved form of C. philippinense. . . . . The differences which strike me most in the Siamese plant, in addition to the different habit, . . . are: the shorter scape, with smaller flower, of rather more rigid texture: the less undulate dorsal sepal, with the regular white margin all round, and the darker spots confined to the centre of the basal half, where are also a number of darker green lines; the connate lateral sepals considerably larger than the lip; the shorter petals distinctly spotted at the base: the smaller stouter lip, which, like the petals, is more yellow in colour, and very glossy: the smaller staminode, and, lastly, the different season of the year when the flowers are produced. Although the dorsal sepal and the central boss of the staminode bear some resemblance to C. insigne, . . . yet the lip is equally near to C. Druryi, while in general habit it is much nearer to the last named. All things considered, I think it entitled to rank as a distinct species, for which the name of C. Exul may be retained" (Rolfe in *Lindenia*, sub. t. 327). The various plants which have since flowered in different collections have served to confirm most of these remarks, and there is no longer any doubt of its distinctness.

MASDEVALLIA FLORIBUNDA ABNORMAL.

A very remarkable inflorescence of Masdevallia floribunda has appeared at the Royal Botanic Garden, Glasnevin, under the charge of Mr. F. W. Moore, which has the appearance of one flower growing out of the centre of the other. On careful examination it is seen that the bract of the lower flower has remained confluent, first with the ovary, and then with the lateral sepals, which latter are not united to each other by their margins, but to either side of the bract. The latter organ has also become petaloid, like the sepals, and is even densely spotted with brown in the same way. In fact, it looks like an additional sepal between the two lateral ones, for, like them, it has a free apex, but shorter and broader, and a tail, which, however, is only a line long, and represents the apiculus of the bract. In other respects the flower is perfect. The close-in hose arrangement is remarkable. The uppermost flower is stalked and a little exserted, and also without a bract, but as the lateral sepals of this one are confluent it is possible that this also is made up of the lateral sepals and the bract.

R. A. R.

CYPRIPEDIUM × HARRISANDER.

Last month (page 228) we gave a short description of the beautiful Cypripedium × Harrisander, from the collection of W. C. Clarke, Esq., Orleans House, Sefton Park, Liverpool, which received an Award of Merit from the Royal Horticultural Society on July 28th, and now we are able to give an illustration (Fig. 14), reproduced from a photograph kindly sent by Mr. Clarke. The scape bore four flowers, but the lowest one being deformed was cut off before the photograph was taken. As previously remarked, it is a seedling from C. × Harrisianum, the pollen parent being the long-petalled

Fig. 14. CYPRIPEDIUM × HARRISANDER.

C. Sanderianum, and the figure shows that the characters of the two parents are very well combined in the hybrid. In general habit it most resembles the pollen parent, but the petals are reduced to 4½ inches in length, and the flower is modified in other respects, both in shape and colour. The ground colour may be described as light yellowish green with the dorsal sepal regularly striped and the basal half of the petals spotted with purple-brown. The lip is also shining purple brown in front, and the staminode convex,

obcordate, and pubescent all over. The leaves are marbled with two shades of green, much as in the seed parent. A fresh flower was also sent, together with a second photograph showing the whole plant, which has evidently a more robust constitution than C. Sanderianum. It is a decided acquisition to the ranks of hybrid Cypripediums. Contrary to what was stated on page 228, we believe that this hybrid was raised in the collection of Charles Winn, Esq., of Selly Hill, Birmingham, as the following note from Mr. Winn will show:—"With regard to the seedling Cypripedium × Harrisianum × Sanderianum, when the latter was imported I purchased some plants, and one flowered very soon. I used the pollen, and had some dozen or more plants. I parted with a few of these, in exchange, to Messrs. Lewis, from whom my friend, Major Mason, purchased one, and Mr. Clarke tells me he purchased another. Probably it is from these seedlings that the one exhibited flowered. Messrs. Charlesworth have now the remaining stock of beautiful healthy plants." Thus it would appear that our note with respect to the origin of the plant was correct, though not as to the raiser. Whether the same cross has been raised in any other collection we cannot say.

SACCOLABIUM SMEEANUM.

This interesting little plant has again flowered in the collection of A. H. Smee, Esq., The Grange, Carshalton. It was described by Reichenbach in 1887 (*Gard. Chron.*, 1887, II., p. 214) from a single plant, which is still believed to be the only one in cultivation, and, curiously enough, its origin is still unknown. It passed through different hands before coming into Mr. Smee's possession, and is recorded to have first flowered in October, 1885. It still shows the peculiarity originally pointed out of "a great change in the colour of the small flowers," for when these first expand the lip is of a pretty light violet with a white line near the base. This line gradually becomes yellow, while at the same time the violet is replaced by yellow on the front of the lip, and passes into dull brownish-purple on the sides, until by the time the flower fades scarcely a trace of the original colour remains. The flowers are small, and borne in a branching raceme, something like some species of Sarcanthus. It is, however, a true Saccolabium, there being no trace of a septum in the spur. Although a botanical Orchid, it is a very interesting one, and the curious change of colour mentioned above is very seldom seen in this family, though a few examples are known in which a distinct change of colour occurs before the flowers fade.

R. A. R.

LÆLIA PUMILA AND L. DAYANA.

A question has been raised by a correspondent as to the distinctness or otherwise of the forms of the pretty little Lælia pumila group, which are again beginning to flower, and as their history has been much confused, an account of them may probably prove interesting.

Lælia pumila was originally described in the *Botanical Magazine*, in 1830, under the name of Cattleya pumila, from a plant which flowered in the collection of John Allcard, Esq., in the previous year. It was said to have been received from the Essequibo, but the statement probably originated in some mistake, as the species is unquestionably Brazilian. It was discovered by Gardner on the Organ Mountains in April, 1837, and is noted as "found on the small branches of trees; very rare." In 1844 it was also figured in the *Botanical Register*, from a plant which flowered in the establishment of Messrs. Loddiges, of Hackney, where its original introduction is attributed to a French dealer, M. Pinel, who sent it from Brazil under the name of Cattleya marginata. It was afterwards stated that M. Pinel originally sent plants to M. Morel, an amateur of Orchids at Paris.

This particular plant, Cattleya marginata, had been figured in the previous year in *Paxton's Magazine of Botany*, from a plant which flowered in October, 1842, with Messrs. Loddiges, who appear to have received an importation about this time, probably from M. Pinel. A few years later it was also figured in the *Florist*.

In 1844 a plant flowered in Messrs. Rollisson's Nursery to which the name of Cattleya Pinelii was given, which clearly indicates its origin. This was doubtfully admitted as distinct by Lindley, who remarked that it differed from C. pumila in having white sepals and rose-coloured petals, which were straight and almost exactly ovate, but was insufficiently known.

In 1850 a plant was figured in the *Florist* under the name of Cattleya spectabilis. This, too, had flowered with Messrs. Loddiges, who exhibited it at one of the Royal Horticultural Society's Shows at Chiswick. The following note was contributed by Messrs. Loddiges:—"With respect to the Cattleya spectabilis, we received a small parcel of Orchids from Brazil in the spring of 1849, amongst which were some Cattleyas having the appearance of marginata; many of these flowered as such. This being stronger in growth evidently appeared different, and flowered in June, when it was exhibited at Chiswick; it seemed to be an extraordinarily fine variety of marginata."

In 1853 Reichenbach showed that Cattleya pumila was a true Lælia, and gave the name under which it is now known, considering most of the preceding as forms of the same species, which they evidently are.

In 1857 the same author described Lælia præstans from a plant which

flowered in the collection of Herr Reichenheim, of Berlin, in the previous winter. It was compared with Lælia pumila, but was considered distinct on account of its large flowers, broad petals, and the broader more curved and fleshy tube of the lip, which was yellow inside. It came from the province of Santa Catherina, South Brazil. Two years later a plant appeared in the collection of Mr. John Day, at Tottenham, about which Lindley contributed an account to the *Gardeners' Chronicle*, stating that it was purchased at Stevens' Rooms among Cattleya marginata. The flower was four inches in diameter.

In 1859 a plant was figured by Lemaire in the *Illustration Horticle* under the name of Cattleya pumila major, which Reichenbach afterwards claimed as belonging to Lælia præstans. This had been sent by M. Pinel to M. Ambrose Verschaffelt in 1855, also under the name of Cattleya marginata. It was figured as a fine variety of the type.

In 1877 a still larger and very handsome form appeared in the collection of M. Massange de Louvrex, which was figured in the *Belgique Horticole* in the following year as Lælia pumila var. mirabilis. It is much like an enlarged form of the one previously mentioned.

There is a very beautiful white variety known as L. præstans alba, which appeared in the establishment of Mr. W. Bull, of Chelsea, and received a First-class Certificate on October 8th., 1889. It may also be remarked that a similar award was given to L. præstans typical on November 5th, 1867, and to L. pumila on June 2nd, 1869, both the plants being exhibited by Messrs. James Veitch & Sons.

How far Lælia præstans can be distinguished from L. pumila is doubtful. Messrs. Veitch, who reduce it to the rank of a variety, distinguish it by the "lip straight, as in the type, convolute side lobes over-lapping at their margin, very stiff in texture, so that they cannot be spread out without splitting; lines of the disc almost obsolete; disc orange-yellow." These differences were relied upon by Reichenbach to separate it as a distinct species, but from an examination of a series of forms it is evident that they cannot be relied upon absolutely. For example, the two last figures cited below under Cattleya marginata have the disc yellow, as has also the form figured as Cattleya spectabilis, while Cattleya pumila major, which was claimed by Reichenbach as Lælia præstans, has a pale disc, while forms in which the throat was purple, like the rest of the lip, have been recorded on more than one occasion. And the character derived from the shape and texture of the lip seems equally variable. It will also have been observed that the original plants came home as Cattleya marginata, and were only picked out when they flowered, all of which facts go to show that Lælia pumila is very variable, and that præstans is simply a fine form of the same, which passes by easy stages into the type.

Lælia pumila is a native of South Brazil, and is said to occur [illegible] extending from the eastern part of the province of Rio de Janeiro southwards to Santa Catherina, where it grows upon trees on the mountain slopes at 1,500 to 2,500 feet elevation.

The following are the references to descriptions and figures of the different forms:—

Lælia pumila, Rchb. f. in *Fl. des Serres*, ix. (1853), p. [illegible]. *Xen. Orch.*, ii., p. 44, t. 115, figs. 3-10; Hamb. *Sel. Orch.*, ser. 2, t. [illegible]; *Ic. Mex. Orch.*, ii., pp. 77, 78, with fig.; Rolfe in *Gard. Chron.*, 1890, viii., p. 242. *Orchidophile*, 1890, p. 50, with plate; *Gartenfl.*, xxxix., p. 160, t. [illegible], fig. 3.

Cattleya pumila, Hook., *Bot. Mag.*, lxv. (1839), t. 3650. *Bot. Reg.*, xxx., t. 5; *Gard. Chron.*, 1885, i., pp. 596, 597, fig. 110.

Bletia pumila, Rchb. f. in *Walp. Ann.*, vi. (1862), p. 421.

Cattleya marginata, *Pant. Mag. Bot.*, x. (1844), p. 205, with plate.

Florist, 1851, pp. 25, 98, with plate; *Floral Mag.*, 1874, p. 353, with plate.

Cattleya Pinelii, Lindl., *Bot. Reg.*, xxx. (1844), t. 5, fig. 1, text, p. 9.

Cattleya spectabilis, *Florist*, iii. (1850), pp. 89, 91, with plate.

Lælia præstans, Rchb. f. in *Bot. Allg. Gartenz.*, xxv. (1857), p. [illegible]. Lindl. in *Gard. Chron.*, 1859, p. 240; *Bot. Mag.*, t. 5498; *Fl. des Serres*, t. 1900; *Reichenbachia*, ser. 2, i., p. 13, t. 6; *Orch. Illust.*, v., t. 433.

Bletia præstans, Rchb. f. in *Walp. Ann.* vi. (1862), p. 425; *Xen. Orch.*, ii., p. 43, t. 114.

Lælia pumila præstans, *Veitch Man. Orch.*, ii. (1887), p. 79; Rolfe in *Gard. Chron.*, 1890, ii., p. 242.

Cattleya pumila major, Lem. in *Ill. Hort.*, v. (1858), t. 196.

Lælia pumila major, Lem. *l. c.* in note.

Lælia pumila var. mirabilis, E. Morr. in *Belg. Hort.*, xxviii. (1878), p. 279, t. 17.

Lælia Dayana was described by Reichenbach in 1876, from materials sent by the late Mr. John Day, of Tottenham, after whom it was named. The author remarked: "An unexpected and lovely plant. Take a Lælia pumila and give the lip a very dark purplish border, similar very dark veins covered with dark low lamellæ: this is the Lælia Dayana, named in honour of my excellent correspondent, Mr. Day, who most kindly sent me seven glorious flowers of this new Brazilian plant." It was also compared with the rare Lælia Jongheana. It was sent home by Mr. Boxall, the well-known collector for Messrs. Hugh Low & Co., and is said to have been sent home in quantity with a batch of Lælia pumila. Messrs. Low also flowered it at the same time as Mr. Day. Shortly afterwards it was figured in the *Floral Magazine* by Mr. Burbidge, under the name of L. pumila Dayana.

There is not the same difficulty in distinguishing L. Dayana from L. pumila as is experienced in the case of L. præstans, for the present one has the disc of the lip always traversed by five to seven narrow keels, highest in the centre, which gives it a very distinct appearance. The flowers are also usually darker in colour, the margin of the side lobes and front lobe of the lip being deep purple; they also generally appear rather earlier in the autumn. Owing to these differences it can easily be retained as a distinct species.

A very fine flowered variety known as L. Dayana superba, which appeared with Messrs. James Veitch & Sons, received a First-class Certificate from the Royal Horticultural Society on November 18th, 1879: while a similar award was given to the type on January 17th, 1877, when exhibited by Sir Trevor Lawrence.

The following are the references to descriptions and figures:

Laelia Dayana, Rchb. f. in *Gard. Chron.*, 1876, vi., p. 772; *Orch. Album*, iii., t. 132.

Lælia pumila Dayana, Burbidge in *Fl. Mag.*, 1877, t. 249; *Belg. Hort.*, xxx., p. 185, t. 10; *Veitch Man. Orch.*, ii., p. 79; Rolfe in *Gard. Chron.*, 1890, viii., p. 242; *Gartenflora*, xxxix., p. 169, t. 1319, fig. 1, 2.

Respecting the culture of this group Messrs. Veitch, in their *Manual of Orchidaceous Plants* (ii., p. 80), remark that they are best cultivated in shallow pans that can be suspended near the roof glass, where they can receive a maximum of light, and in a position where there is a considerable range of temperature between the opposite seasons of the year. The small quantity of compost sufficient for the plants to root in must at no time be allowed to get dry, and during the growing season water must be liberally supplied; the higher temperature should then be maintained, taking care not to let it sink below 55 Fahr. This treatment is evidently consonant, as far as practicable, with the climatic conditions of the comparatively high latitude from which they are brought, and the altitude at which they occur in their native country.

LÆLIA JONGHEANA.

It is very curious how nearly this handsome species has been lost sight of. So rare is it that, although described nearly a quarter of a century ago, we have never seen a flower of it in any shape or form, and only one living plant. Nor does any one appear to have again imported it, or even to know its exact habitat. It is most allied to L. pumila, but has much larger flowers, and is very distinct in other respects. It was described in 1872 by Reichenbach, who remarked:—"Here you have a first-rank novelty. Ah!

Lælia majalis is degraded. Cattleya Mossiæ and labiata have according to my taste at least a very dangerous rival. Imagine shining wood-ash small bulbs of darkest green, very shining, exceedingly thick, quite a leaf-beauty: the flower as in Lælia majalis, but of the most brilliant amethyst colour, as bright as that of Vanda teres itself the sepals narrow, the petals very broad, a little crisp, the lip with pallid amethyst side lacinia beautifully crisp and denticulate: seven high keels of darkest orange in the centre of the lip: longer than the arched whitish column, and all veins of side lacinæ with radiating keels inside. The wonderful beauty of this grand flower is based on its purest colours, and it makes the beholder think of that little gem, Dendrobium Devonianum, by the combination of amethyst, yellow, and white. The violaceo-amethyst border of the wonderfully wavy and denticulate lip adds the crowning beauty.

The plant has just flowered with MM. Thibaut & Keteleer, at Paris. I have to thank M. Luddemann for it, that gentleman having sent it. . . . I am informed that it was flowered some years ago, and had been sent to me, but I never received it. Such a gem would not have been left unpublished. The merit of its introduction is due to the excellent M. de Jonghe, of Brussels. . . . It was discovered by his ill-fated traveller, poor Libon, who fell a victim to his zeal in the Brazils. They both belonged to the most ardent lovers of plants. If I mistake not, I remember to have seen the plant in 1856 with M. de Jonge. Libon praised it very highly, and named it Brassavola Jonghei. Thus the plant may bear the name of M. de Jonghe, in accordance with the wish of his young friend and zealous collector, the late M. Libon, and my own. May M. de Jonghe look out how many many Orchids would be capable to beat that one dedicated to him." (*Gard. Chron.*, 1872, p. 425, fig. 128.)

In the following year it flowered in the establishment of Messrs. James Veitch & Sons, of Chelsea, and was figured in the *Botanical Magazine* (t. 6038). A year later a figure of the plant which flowered with M. Luddemann was given in the *Revue Horticole* (1873, p. 291, with plate), and in 1875 another appeared in the *Floral Magazine* (n.s., t. 177). These show the plant to have a dwarf stout habit, both bulbs and leaves being stout, oblong, and dark green in colour, while the flowers measure from four to five inches across. The sepals, petals, and lobes of the lip are brilliant deep amethyst purple, and the throat and centre, including the fine crenulate keels, yellow. In front of this the colour passes into yellowish white, while the crisped margin is more or less suffused with purple: not, however, being a hard dark line, as shewn in the *Gardeners' Chronicle* figure, but gradually shading off into the white of the centre.

Messrs. Veitch remarked in 1887 that it was now fortunately represented in several British collections, usually flowering in March, and we should like

to know if this is still the case, as it is a matter for regret that so little should be known of so handsome a plant.

One hybrid from it has been raised, namely, the beautiful Lælio-cattleya × Baroness Schröder (Cattleya Triange ♀ × Lælia Jongheana ♂), which was raised in the rich collection at The Dell, Egham, and received a First class Certificate from the Royal Horticultural Society on August 23rd. 1892.

AN INTERESTING EXPERIMENT.

Under this title we recorded at page 180 an experiment which Mr. T. L. Mead is making at his home in Oviedo, Florida, in raising seedling Orchids. Mr. Mead now sends us a further note:—"The season has been a trying one, with extremes of heat and wet and drought, and though my Orchid eyrie in the live oak top promised great success in June, it was very difficult to keep the compost in good condition during the hot muggy days of July. Still, out of thirty-two crosses planted on a space of peat sixteen inches long by twelve broad I obtained plants having first leaf of twenty-two of them—mostly Cattleyas and Lælias—though a good many died when it was necessary to transplant them, on account of mould and algæ threatening to swamp the tiny plants. A single plant of Vanda cærulea ♀ × V. Amesiana ♂ appeared, and is now showing its third leaf. This year I have repeated the cross Bletia verecunda ♀ × Schomburgkia tibicinis ♂, and have several plants in their first leaf, and also one or two of Bletia verecunda crossed with our native Calopagon pulchellus."

We shall be glad to hear from time to time of the progress of these interesting experiments, as also of those which any other of our readers have made.

ORCHID PORTRAITS.

Cypripedium × Schofieldianum. *Journ. of Hort.*, July 30, p. 101. fig. 19.

Dendrobium speciosissimum, Rolfe. *Gard. Mag.*, Aug. 15, p. 551. with fig.

Lælio-cattleya × Andriana. *Rev. Hort.*, July 16, p. 328, with plate.

Miltonia sp.—*Gard. Chron.*, Aug. 8, pp. 158, 159, fig. 29. This is M. flavescens, Lindl.

Odontoglossum Galeottianum. *Gard. Chron.*, Aug. 8, p. 158, fig. 28.

Sarcochilus hainanensis, Rolfe. *Bot. Mag.*, t. 7489.

CALENDAR OF OPERATIONS FOR SEPTEMBER.

By H. A. BURBERRY, Highbury, Moor Green, Birmingham.

In the Cool Orchid house no warmth from the hot water pipes should be required this month. Ventilate freely both night and day, and keep the temperature as low as possible: at the same time keep up plenty of moisture by damping down several times during the day. The cool night air is a great invigorator, and the plants enjoy it. If healthy, robust growth is desired, fresh air, and plenty of it, must not be denied.

This is, so far as Orchid flowers are concerned, a very dull season. To an enthusiastic grower, however, flowers alone are not the only pleasing feature. To my mind the sight of the plants growing so freely at this season fully compensates for the lack of bloom. If previous instructions have been followed, the latter happy state of affairs will now exist: for at no time of the year do Cool Orchids grow so freely as at this season.

But although flowers are scarce, there are still a few to be had. For instance: the genus Oncidium is sure to be represented, no matter at what time of the year. One very pretty and useful species flowering now is O. obryzatum; its long and many-branched spikes carrying an enormous quantity of pretty little flowers of a golden yellow colour, spotted with light brown. Such spikes of bloom are very graceful, and produce a lovely effect. This species is of easy culture, growing well either in pots or in baskets. If repotting is desirable, let it be done when new growths and roots are pushing. It is best removed to the Intermediate house during winter. Another exquisite little species is now in bloom in the form of O. Gardneri. It is not one lending itself very readily to cultivation: hence its scarcity. I find generally that it grows best in the coolest house, except, perhaps, for a short time during winter, when it mostly happens that it is forming new growth, necessitating, of course, the warmth of the Intermediate House. It is essential that it should be grown in small pans or baskets, and suspended. O. spilopterum (O. Saintlegerianum) is another species now in bloom, which promises to become a very pretty addition when more fully established. In fact, it is very pretty already: the large yellow labellum showing up the prominent violet-coloured crest very effectively. It appears to be of easy culture, growing well in the coolest house, in either pans or baskets.

In this department a good many spikes will now be making their appearance, which will bloom later on in the autumn and winter months. Amongst them may be noted such fine things as Oncidium crispum, O. Forbesii, O. ornithorhynchum, O. tigrinum, and O. varicosum. Also Odontoglossum Edwardi, and O. ramosissimum. All should be carefully guarded against injury from the various troublesome pests. Tobacco

powder rubbed on to the tender young spikes is a capital protection against most insects, and even slugs do not care to travel over it. The latter should be diligently sought for at night, and killed. A scooped-out potato is, I think, still the very best kind of trap in which to catch the greatest variety of pests, including slugs.

If any of these Cool Orchids still require attention in the matter of repotting or top-dressing, no time must now be lost. As I have said before, I never recommend repotting Orchids later than this month. It is best to err on the safest side. In some localities I admit it can be done with impunity, even throughout the winter months, but that is where the air is clear, and consequently the light is good. In other places sunlight during the winter months is a rare commodity, and it is in such places where the greatest difficulties applying to cultivation occur.

In the Mexican house, also, very little assistance from the hot water pipes will be required this month, unless the nights, or even the days, be unduly cold, when it is certainly by far the best and wisest plan to have a little warmth in the pipes, so that the ventilation need not be entirely closed. Nothing is more hurtful to Mexican Orchids than a stagnant atmosphere, and if a house is shut up close, without fire heat, it is absolutely sure to become so. It is better, then, to have slight warmth in the pipes with ventilation, and the thermometer ranging at night about 60°, a little more or less. In this house, flower spikes of Lælia anceps, L. Gouldiana, and others of the same type will now be showing in quantities. Let them have exactly the same kind of treatment in all respects as previously advised viz., watering them when dry only, keeping them near the light, and giving them the full sun, and an abundance of air in favourable weather. It is best, perhaps, now to discontinue syringing overhead at night, doing it only the first thing in the morning; otherwise a few spikes may be lost through damping. Cattleyas of the Warscewiczii and Warneri sections should also receive similar treatment in this department, for if they remain now in a warm and moister place there is great danger of their starting a second growth.

I find that the general conditions of the Mexican house suits Burlingtonias better than any other. This is a genus that is seldom seen growing well for any length of time, and it seems to me that the cause is their not being grown sufficiently hardy. What is more sweetly delicate and lovely than a well-grown and flowered plant of Burlingtonia fragrans? but it is a sight rarely seen. It always grows freely when first imported, and also blooms well the first year; after which it slowly but surely becomes smaller and weaker, until it finally disappears. I would advise growers who have hitherto been unsuccessful to try it suspended in this department in full sun, keeping it syringed during the growing season. In reality it seems to require

but little attention; baskets or pans are the best receptacles, in which the plants should be fixed firmly, in the usual compost of peat and sphagnum moss. Such treatment is also to be preferred for the short-bulbed Cattleyas, such as C. nobilior, C. Schilleriana, C. Walkeriana, and C. citrina.

Pleiones are now fast swelling up their new pseudobulbs, and must be given the lightest and airiest place in the house. Still give them a liberal supply of water, as the pseudobulbs will still continue to enlarge until the foliage turns yellow, and drops off; even after that it is a mistake to let **Pleiones get too dry.**

The Cattleya house will also require a little assistance from the hot water pipes when the weather is cold, maintaining a night temperature from 60° to 65°, with a circulation of air. Let the plants now receive a larger amount of light by reducing permanent shading, and by using the roller blinds only occasionally when the sun is very bright. Twice daily will now be sufficient for damping down the paths between the pots, &c., doing it the first thing in the morning, and again about three or four o'clock in the afternoon. Many of the inmates of this department will by this time have almost completed their new growth; such as the earliest of the labiata section of Cattleyas, like C. Trianæ and C. Schroederæ, whilst other later kinds, such as C. Mossiæ and C. Mendelii, together with Lælia purpurata and some few others, have still a good deal to do. If it be possible it is best to place the former at the coolest and airiest part of the house, and the latter at the warmest part. Of course, those kinds having finished their growth will need less water at the root than others, but they should not at **present be kept too dry.**

Lælias and Cattleyas newly imported at the end of summer do not establish so readily as those arriving in spring. The latter start away freely, and become firmly established during the summer, but those coming at this date are slow to break, and when they do so result in weak and spindly pseudobulbs. They therefore require careful handling. If it is impossible to import some species at any other time, we must make the best of them at this. They should be nicely potted up without delay, and taken to their respective houses, and the compost should be kept just moist, and also the immediate surroundings, so that shrivelling and an undue loss of vitality is prevented before they start to grow. Those which show signs of making new growth should at once be encouraged to do so, by being given a little extra warmth and moisture, and by placing them at the same time near the roof-glass, where they get the maximum amount of light.

Dendrobiums are also now rapidly finishing up new pseudobulbs. It is most essential that these Orchids have a complete rest during autumn and winter, in a much cooler temperature than that in which they make their growth. Upon this much will depend in the successful cultivation of this

most beautiful and useful genus. Most of the various species of Dendrobium can be well managed in one structure when growing, but when resting they are better for being separated, and placed in different houses. Generally speaking, the spring flowering kinds, such as D. crassinode, D. Wardianum, D. Falconeri, D. Devonianum, D. aureum (heterocarpum), D. nobile, and many other species and hybrids which flower only after resting, should, after completing their season's growth, be removed to a department offering similar conditions to the Mexican house, where they should remain throughout the winter months. Upon their removal the supply of water should gradually be lessened, and in a month or two's time a very little water indeed will be found necessary to keep the plants quite plump and healthy. Such evergreen species as D. thyrsiflorum, D. densiflorum, &c., should, if possible, be given a place even cooler than the Mexican house. A cool greenhouse, for instance, where the temperature sometimes falls as low as 40°, providing the root and the atmosphere is dry, suits them well, as it also does D. Wardianum and the Thunias. On the other hand there are a lot of Dendrobiums that will take harm if subjected to a low temperature at any time, even when at rest. The chief amongst these are D. Bensoni, D. Lowii, D. macrophyllum, D. aggregatum, D. Dearii, D. Parishii, D. formosum, and all the D. Phalænopis section. These would be seriously injured if allowed to become too cold. A temperature ranging from 60° to 65° is a good one for them during the winter months.

Such miscellaneous species as Mormodes, Catasetums, Cycnoches, Coryanthes, Chysis, and Cyrtopodiums, as they complete their growth, should be thoroughly well rested by being suspended in the lightest and dryest part of the Cattleya or Mexican houses.

Lælio-cattleya × elegans is a most variable Orchid, and a good many of its varieties are to be seen in flower at this time of the year. Although there are so many different varieties, I have never yet seen one that could not be called pretty, and worthy of its room. It should be grown at the warmest end of the Cattleya house; as should also C. Leopoldi, C. granulosa, and C. elongata (Alexandræ), likewise now in flower. Cattleya Dowiana aurea, too, will be flowering this month. Take great care of this lovely and now rather scarce species, and see that it does not rot at the flower spike after the flowers are cut; for, if so, the leaf, and the greater part of the pseudo-bulb, will decay before it can be stopped. When this is so, it is a great misfortune, for it has at all times a delicate constitution, and rarely is it possible to again bring the same plants back to their former strong and healthy condition. To avoid this, entirely remove the spike and the sheath, and sprinkle on the wound a pinch of powdered charcoal, at the same time placing the plants in a warm and dry position in the Cattleya house as their

winter quarters. C. labiata is also very liable to rot in exactly the same manner. This must not be mistaken for a disease: it is simply caused by the damp, and it can only be avoided by the usual methods adopted in procuring a suitable atmosphere.

Such East Indian house Orchids as Aërides, Saccolabiums, Vandas, Phalænopses, &c., must now have a trifle less water given them, and also the amount of moisture in the atmosphere should be somewhat reduced. They have now partially completed their season's growth, and, like all other kinds of Orchids, it is necessary to ripen and harden these also. But it must be carefully done: species having no pseudobulbs are very easily injured by extremes of treatment. All that is necessary, in addition to the above, is to shade less, and give as much air as the outside conditions will permit.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

At the meeting of the Royal Horticultural Society held at the Drill Hall, James Street, Westminster, on August 11th, there was a moderate display of Orchids, which included several interesting exhibits, particularly a very fine form of Cattleya × Hardyana, and a second hybrid from Cattleya citrina.

Baron Sir H. Schroder, The Dell, Egham (gr. Mr. Ballantine) received a First-class Certificate for Cattleya × Hardyana splendens, one of the finest forms of this handsome hybrid yet seen, and exceedingly well grown. The flowers were large and well-formed, the sepals and petals most resembling C. Warscewiczii, but the lip very dark purple-crimson, and veined with deep yellow, as in C. Dowiana. He also sent cut examples of Lælio-cattleya × elegans, a richly coloured form, L.-c. × elegans Morreniana, and the rare L.-c. × Sedeni the latter plant, we believe, not being represented in any other collection.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), received a Bronze Banksian Medal for a very interesting group, including Lælio-cattleya × Schilleriana, Cattleya Warscewiczii, the pretty little orange-red Lælia monophylla, Oncidium longipes, Cypripedium × Clinkaberryanum, C. Godefroyæ, C. × Lachmee, C. × Charles Canham, a fine plant of C. × œnanthum, Selenipedium × grande, the remarkable Pleurothallis scapha, Masdevallia Chimæra, M. Balaana, M. amabilis, several good forms of M. coccinea (Harryana), M. × Stella, M. gattulata, M. Reichenbachiana, &c. A Botanical Certificate was given to the singular little Scaphosepalum anchoriferum, a species formerly known as Masdevallia anchorifera.

Sir Frederick Wigan, Clare Lawn, East Sheen (gr. Mr. Young), received an Award of Merit for Lælio-cattleya × elegans Cawenbergiana, a handsome light-coloured form, with an inflorescence of nine large flowers. A ten-flowered inflorescence of a fine dark form of L.-c. × elegans was also sent from a plant bearing twenty-nine flowers.

C. I. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), received an Award of Merit for Lælio-cattleya × Seraph, a very interesting and pretty hybrid derived from L.-c. × elegans ♀ and Cattleya citrina ♂. The pseudobulbs were dwarf and swollen about the middle, and the flower erect, much resembling the pollen parent in shape, but smaller, and the segments proportionately broader. The sepals and petals were light yellow, tinged with green, and the front lobe of the lip crimson-purple. The influence of the pollen parent was less marked than in C. × citrino-intermedia.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), exhibited a very fine Cattleya Gaskelliana alba, the flower very large and pure in colour, and the handsome C. × Kienastiana (C. Lueddemanniana ♀ × C. Dowiana ♂).

Sir William Marriott, Down House, Blandford, showed Cattleya × Marriottiæ, a very pretty hybrid, derived from C. Eldorado and C. Warscewiczii, the latter presumably the pollen parent. It bore an inflorescence of five flowers, most resembling C. Eldorado, but the segments broader and a little darker.

A. H. Milton, Esq., White Ladies' Road, Clifton, showed a curiously striped form of Cattleya Gaskelliana, and a six-flowered inflorescence of Cattleya Loddigesii.

Pantia Ralli, Esq., Ashstead Park, Epsom, showed a very good form of Odontoglossum aspidorhinum, and cut examples of a pretty purple Sobralia, something like S. Lowii.

A. Singleton, Esq., Chapel-en-le-Frith, sent an inflorescence of Lælia crispa, and Cypripedium × Singletonianum, said to be derived from C. × vexillarium and C. barbatum Warneri.

Reginald Young, Esq., Frigilla, Linnet Lane, Sefton Park, Liverpool, sent good cut examples of Cattleya velutina, Lælia crispa Buchaniana, Lælio-cattleya × elegans Turneri, and L.-c. × e. Houtteana.

Messrs. F. Sander & Co., St. Albans, staged a very pretty little group, containing Cattleya Eldorado Wallisii, Lælio-cattleya × elegans Turneri, two good plants of Sobralia xantholeuca, Phaius Humblotii, the pretty dwarf Spathoglottis plicata Micholitzii, Miltonia vexillaria, the pretty Trichopilia brevis, Dendrobium bracteosum, and Eria acervata. An Award of Merit was given to a very fine Cypripedium called C. × Excelsior var. Mars, derived from C. × Harrisianum and C. Rothschildianum.

At the meeting held on August 25th Orchids were exhibited in moderate numbers, being about the average for this time of the year, and several of the exhibits received awards.

J. Gurney Fowler, Esq., Glebelands, S. Woodford, Essex (gr. Mr. Davis) received a Silver Flora Medal for a fine group of well-grown plants, including the handsome Lælio-cattleya × Fowleri, L.-c. × Veitchii, var. Vedasti, L. c. × elegans, some good Cattleya Dowiana, C. Eldorado, the white C. E. Wallisii, and C. Loddigesii, the handsome Pachystoma Thomsonianum with several spikes, the rare and pretty Renanthera matutina, Cycnoches chlorochilon, Catasetum Bungerothii, the curious Stanhopea calceolus, Odontoglossum tripudians, Dendrobium Phalænopsis, a good plant of Cypripedium Lawrenceanum Hyeanum, and others.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), sent a number of interesting things, including well bloomed plants of Epidendrum alatum and E. Fourmierianum, good plants of Cypripedium × curvandrum, C. × œnanthum and C. × Harrisianum superbum, a fine spike of Rhynchostylis retusa, cut flowers of Maxillaria lepidota, and a plant of Eria stellata with several racemes. Well-grown plants of Habenaria carnea and its variety nivosa received a Cultural Commendation.

The Hon. Walter Rothschild, Tring Park (gr. Mr. Hill), sent three interesting plants, to each of which an award was given. These were Miltonia Schroederiana major, a handsome form with flowers larger than in the type, which received an Award of Merit; an unnamed Bulbophyllum from Borneo, allied to the Himalayan B. striatum, Rchb. f., with glossy light yellowish brown, delicately striped flowers, a Botanical Certificate, and Cycnoches maculatum with a long pendulous raceme of male flowers, an Award of Merit. The latter is described at page 228 of our last number.

Major Joicey, Sunningdale Park (gr. Mr. Thorne), staged several fine things, including the pretty little Odontoglossum aspidorhinum with four spikes, the handsome Angulua eburnea, Stanhopea Lowii var. Amesiana, Cattleya Leopoldi, and an unnamed species of Warscewiczella. The three following each received an Award of Merit: Lælia monophylla with large flowers, one of the spikes bearing two blooms, a good plant of Stanhopea eburnea, and Miltonia candida grandiflora, a very fine form with three spikes.

Col. Brymer, Ilsington House, Dorchester (gr. Mr. Powell), exhibited the handsome Lælio-cattleya × Brymeriana (L.-c. × amanda ♀ × Cattleya Warscewiczii ♂), bearing a strong raceme of five flowers, to which a First-class Certificate was given.

T. B. Haywood, Esq., Woodhatch, Reigate (gr. Mr. Salter), received an Award of Merit for Coelogyne Micholitzii, a handsome thing allied to C. speciosa.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), received a Cultural Commendation for a splendid plant of Lælio-cattleya × elegans var. Cawenbergiana with two spikes, and an Award of Merit for a very fine plant of Dendrobium longicornu, covered with its pretty white and orange flowers. He also sent a large and prettily-blotched form of Odontoglossum crispum.

T. Statter, Esq., Stand Hall, Whitefield, Manchester, sent the handsome Cypripedium × Excelsior (C. Rothschildianum ♀ × C. × Harrisianum ♂), and handsome forms of Lælio-cattleya × elegans and L.-c. × Schilleriana.

Reginald Young, Esq., Fingilla, Linnet Lane, Sefton Park, Liverpool (gr. Mr. Poyntz), sent Cypripedium × Ashburtoniæ expansum, the form raised by Mr. Cookson: and C. × Atropos, a small and brightly-coloured hybrid derived from the last-named crossed with C. purpuratum. It was described at page 292 of our last volume.

Messrs. Hugh Low & Co., Clapton Nursery, staged a fine group, to which a Silver Banksian Medal was given. It included some well-flowered plants of Dendrobium Phalænopsis and D. formosum, good specimens of Rhynchostylis cœlestis and Miltonia spectabilis Moreliana, Lælio-cattleya × elegans Turneri, L.-c. × Schilleriana and its beautiful variety Wolstenholmiæ, Cycnoches chlorochilon, Cypripedium Charlesworthii, and others. A Botanical Certificate was given to Catasetum callosum.

Messrs. James Veitch & Sons, Chelsea, exhibited a fine form of Lælio-cattleya × Cloma (Cattleya Warcewiczii ♀ × L.-c. × elegans Turneri ♂).

Messrs. B. S. Williams & Son, Upper Holloway, showed a fine plant of Brassia brachiata.

Messrs. F. Sander & Co., St. Albans, showed the handsome Lælio-cattleya × Cottoniana, a natural hybrid between Cattleya Warneri and Lælia tenebrosa.

Mr. J. W. Moore, Bradford, showed an undeveloped species of Cymbidium of the C. pendulum group.

CORRESPONDENCE, &c.

F. J. Le Mount.—Sobralia not recognised from description. A better way is to take the flower while fresh, carefully remove the lip and one sepal and petal, then press the whole flower for a few days in blotting paper. The shape and colours are beautifully preserved by this process, and the species can easily be recognised.

C. Stoldt.—Lælia xanthina.

W. H. A., Blackburn.—A good form of Cattleya Leopoldi.

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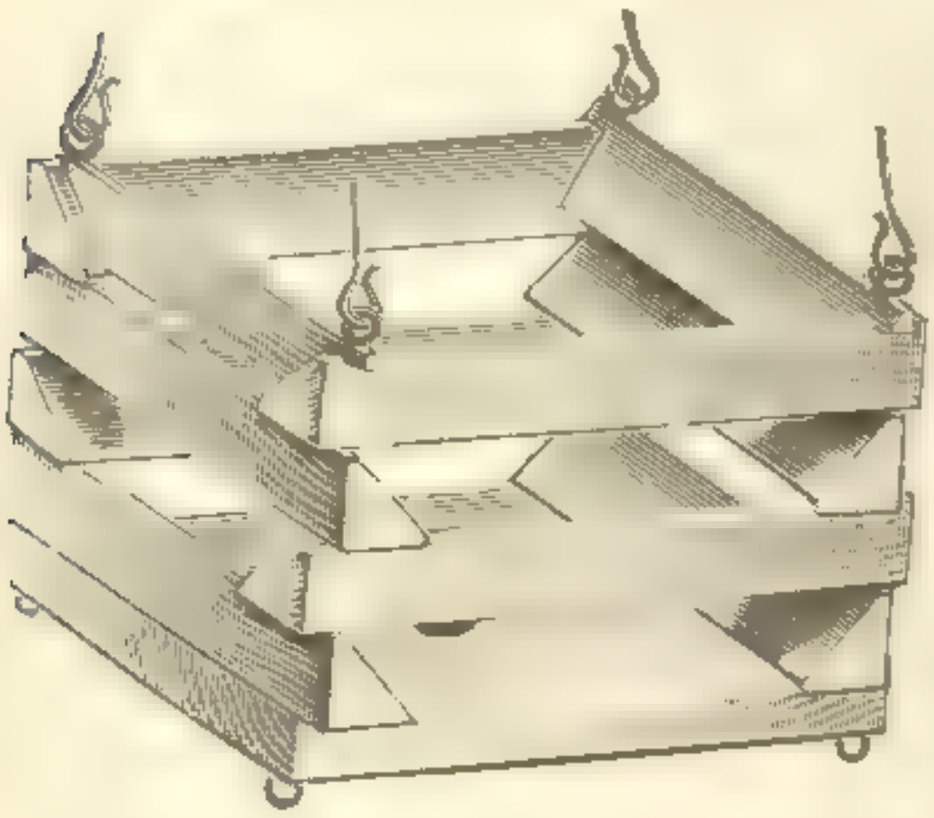

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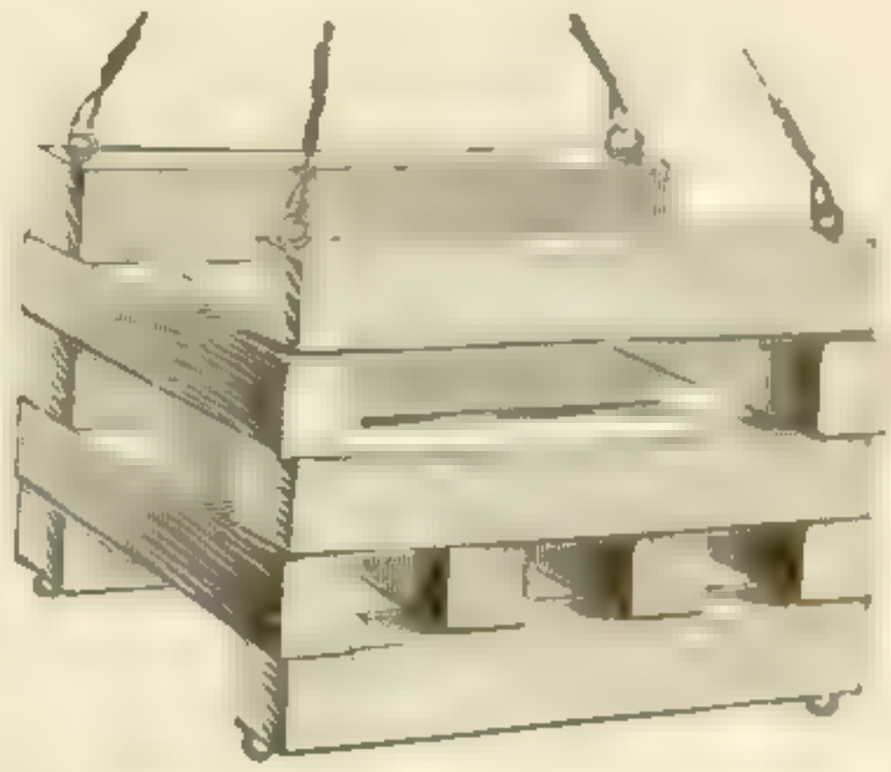

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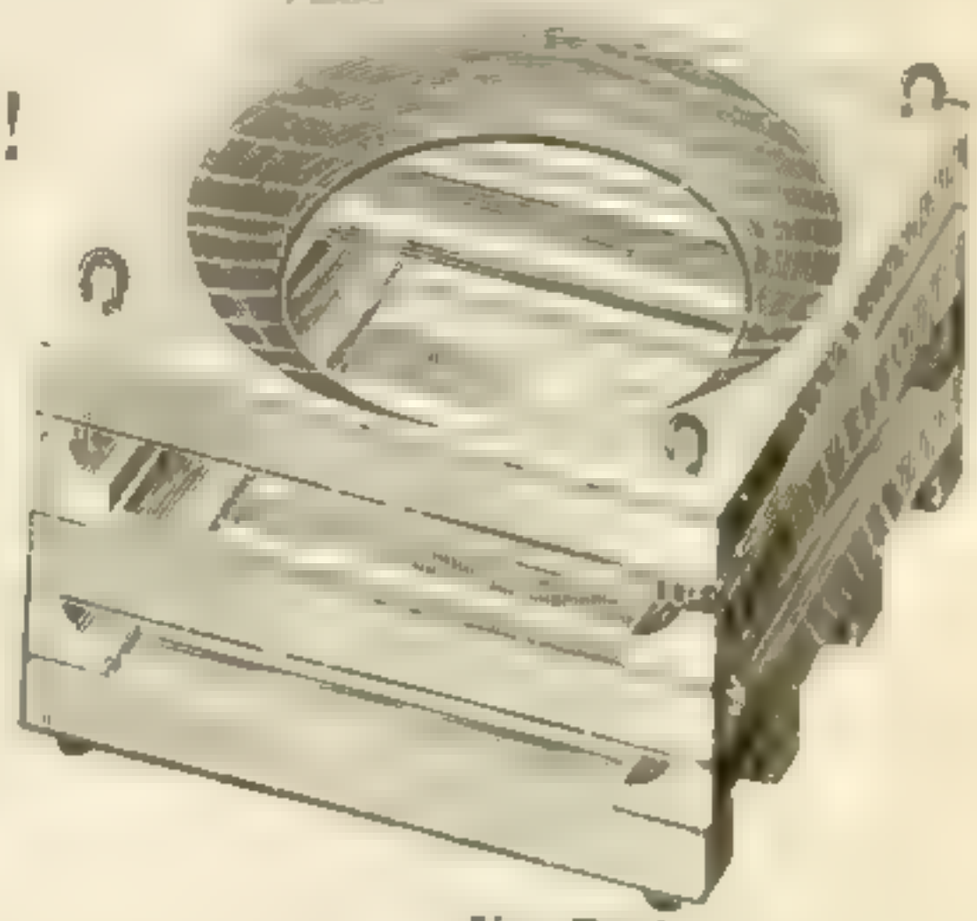

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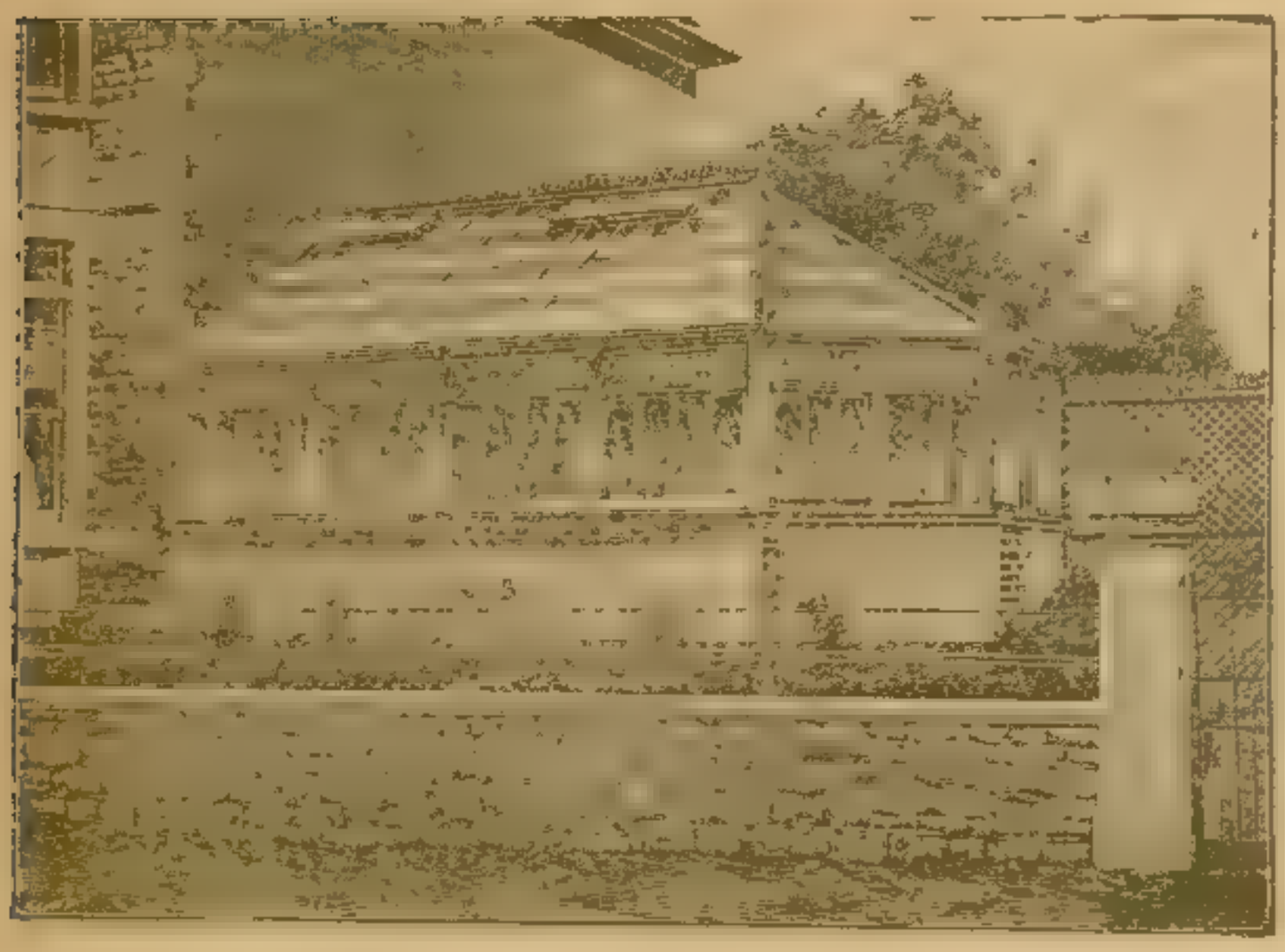

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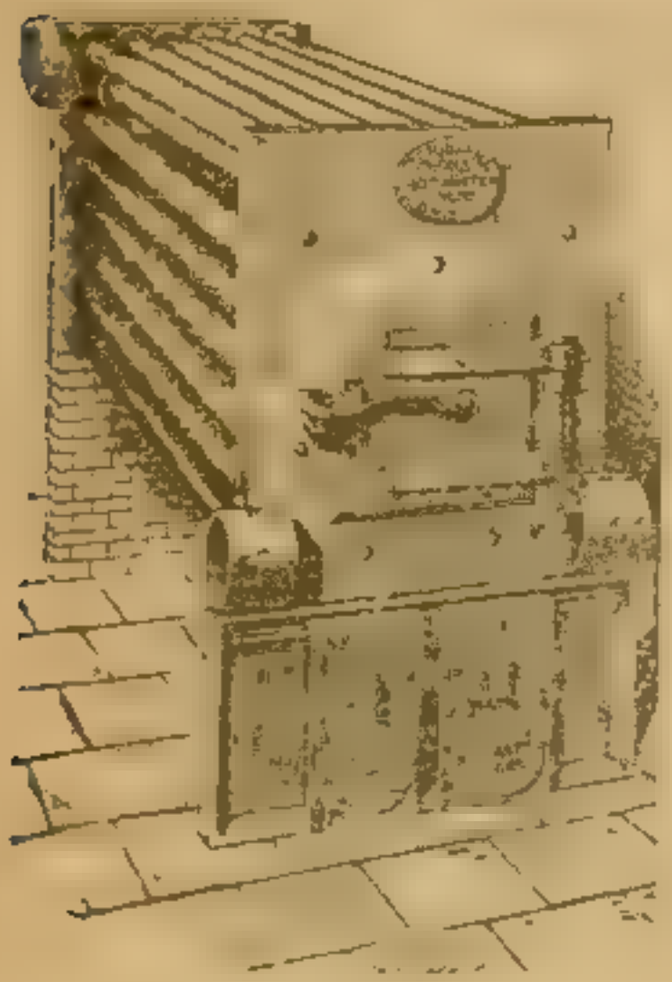

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THE ORCHID REVIEW.

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NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James' Street, Westminster, during October, on the 13th and 27th respectively, when the Orchid Committee will meet at the usual hour of 12 o'clock noon.

We learn that Messrs. Hugh Low & Co., of the Clapham Nursery, have acquired the entire collection of Orchids belonging to the late Mr. F. G. Tautz, of Dibdin House, Hanger Hill, Ealing. It consists for the most part of unflowered seedlings of Cypripedium, fully a thousand plants, and as Mr. Tautz was an enthusiastic hybridist it is anticipated that some good things will be found as they come into flower. Among named forms, Cypripedium × Cowleyanum, C. × Mrs. Tautz, and C. × Nandii may be mentioned.

It is exceptional for Miltonia spectabilis to produce two-flowered scapes, but a plant of the variety Moreliana, in the collection of John W. Arkle, Esq., West Derby, Liverpool, has just produced one. It is one of a few imported about a year ago, and the only one that will flower this season.

An unusually large form of Cattleya Leopoldi has appeared in the collection of H. B. Boardman, Esq., Thornleigh, Burton, Westmoreland, in which the flowers measure over $5\frac{1}{4}$ inches across the petals, all the parts being correspondingly well developed. The raceme bears thirteen flowers. It flowered out of Messrs. John Cowan & Co.'s importations.

We learn that an albino of Lælia præstans has appeared in the collection of D. B. Rappart, Esq., Liscard, Cheshire, as an imported plant. Sepals, petals, and lip are all pure white, with only the addition of a trace

of yellow in the throat. L. præstans alba approaches the nearest to this condition of any form we have yet seen, but this has some purple on the lip.

Another form of Cattleya Lueddemanniana has flowered in the same collection, this one being of great size, as the flower sent measures $9\frac{1}{2}$ inches in diameter across the petals. The latter are $2\frac{3}{4}$ inches broad, and the front lobe of the lip a little narrower.

Several beautiful flowers have been sent from the collection of T. Statter, Esq., Stand Hall, Whitefield, Manchester, by Mr. Johnson, including Lælio-cattleya × Nysa superba, with very richly coloured lip, L.-c. × elegans blenheimensis, and three varieties of the beautiful Dendrobium Phalænopsis, all of them very useful autumn flowering things.

Some little difference occurs in the colour of the markings on the lip of Dendrobium formosum, and this is very marked in two flowers sent from the collection of Reginald Young, Esq., of Sefton Park, Liverpool, one of them having the disc chrome yellow, and the other distinctly orange, forming a striking contrast.

Other beautiful flowers from the same collection are Vanda Sanderiana, Miltonia spectabilis Moreliana, a fine flower of Cypripedium × Youngianum, the uppermost and smallest of a spike of three, the pretty little Lælia Lucasiana, and a good form of Lælio-cattleya × Schilleriana.

We have received from Messrs. Charlesworth & Co. the Catalogue of the Selly Hill collection of Orchids, which they are now offering for sale, comprising over two thousand lots. It comprises all but the unflowered seedlings, and plants with seedlings growing on the pots, which will be included in a later catalogue. We note, however, many plants with seeds sown on the pots not yet visibly germinating, and others carrying seed-pods of which the parentage is given. On plants of Sophronitis grandiflora, for example, there are seed-pods representing crosses with Cattleya Gaskelliana, C. labiata, C. Loddigesii, C. maxima, Lælia Dayana, L. harpophylla, and Epidendrum × Endresio-Wallisii. The Catalogue contains a large number of choice things.

A fine flower of Miltonia spectabilis Moreliana has been sent from the collection of W. S. M'Millan, Esq., of Maghull, near Liverpool. The sepals and petals are very dark, and the lip $2\frac{7}{8}$ inches broad.

With respect to the seedling Vanda, mentioned at page 280, Mr. Mead writes that he now suspects the plant may have come from a seed of some

other genus which has got in among the Vanda seeds in some way—a kind of accident with which most hybridists will be familiar.

A very curious flower of Cypripedium Charlesworthii has appeared in the establishment of Messrs. Hurst and Son, Burbage Nurseries, Hinckley. The dorsal sepal is absent, or, rather, it may be described as united to the lower one, for the single sepal present is underneath the lip, and has the appearance of the dorsal sepal divided, and half of it united to either side of the lower one, each organ retaining its own distinctive colouring. The two petals are united into a single erect one, thus taking the place of the dorsal sepal, while the fertile anthers are either absent, or united with the staminode, which itself is only represented as a single white tooth. The lip and stigma are normal.

A curious proliferous growth of Epidendrum cochleatum has also appeared in the same collection. It appears at the base of the pseudobulb, and quickly divides into two small, almost seedling-like shoots, from which roots have begun to push. It looks very different from an ordinary growth, but it is difficult to suggest any reason for the peculiarity.

EPIDENDRUM OSMANTHUM.

THIS is one of the handsomest Epidendrums of the Encyclium group, and is now flowering freely in collections, though under other names. It is a native of Brazil, end was described in 1881 by Rodrigues (*Gen. et Sp. Orch. nov.*, ii., p. 134). The author remarks that it grows in the forests near Casa de Pedra, in the province of Minas Geraes, flowering in September, the flowers being very aromatic. In 1891 Messrs. F. Sander and Co. introduced some plants from the Pernambuco district, and the original description being overlooked, the plant was re-described under the name of E. Godseffianum (Rolfe in *Gard. Chron.*, 1892, xi., p. 136), and still later as E. Capartianum (L. Lind. in *Lindenia*, VII., t. 333). The identity of E. osmanthum with these later forms was only recently discovered from the examination of M. Barbosa Rodrigeuz's original drawings, which contains a coloured sketch of a single flower, and, of course, the original name must be retained. The flowers are about 1½ inches across, and borne in large panicles, the sepals and petals being light green, more or less suffused or nerved with light brown, and the lip white, with some bright rose-purple lines on the front lobe. It is allied to E. atropurpureum, Willd., and is now pretty well known as a useful autumn-flowering species.

R. A. R.

CATASETUM BUNGEROTHII.

A PLANT of Catasetum Bungerothii in the establishment of Messrs. F. Sander and Co., St. Alban's, has produced a spike of three flowers which are in a transition state between the sexes. The lower flower is nearly a female, but the saccate lip has in addition the broad white membranaceous margin of the male and the column is also beaked. The second flower is nearly a male, but the lip has a sac three-quarters of an inch deep, instead of being simply concave; while in the third flower the sac is still smaller. In each case the sac is fleshy, as in the female flower. It is a very curious example.

R. A. R.

DIES ORCHIDIANÆ.

LAST month I alluded to Cattleya × Hardyana (p. 264), and I even mentioned a "batch of home-raised seedlings" as among the possibilities of the future; but little did I suspect that at that very moment home-raised seedlings were actually expanding their magnificent blooms on the banks of the Tyne. Such, however, was the fact, and a few days later they appeared in all their glory at the Drill Hall. There were two plants, one bearing a single flower, the other a raceme of two, but unquestionably Hardyana; home-raised, obtained by crossing Cattleya Dowiana aurea with the pollen of C. Warscewiczii just nine years ago. Mr. Cookson and his able gardener took that lesson about Cattleya × Hardyana to heart at a time when Mr. Hardy might have obtained a record price for his handsome novelty, and set about obtaining it for themselves. And they have succeeded, as all the world now knows. There will be no need to speak of Cattleya × Hardyana as a "supposed" natural hybrid in future, for its origin has been proved by direct experiment, and if the result only confirms the opinion of our most competent experts it is none the less interesting on that account. Nothing short of actual demonstration was sufficient to set the question at rest, for even as late as September 2nd a note appeared in *Garden and Forest* (p. 354) that some forms of C. gigas "so nearly resemble C. Hardyana that one feels disposed to look upon the latter as a sport simply from C. gigas." On the other hand, one form at least of C. × Hardyana has been ranked as a variety of C. Dowiana, from which the utility of such experiments as the present one will be apparent. Probably others will be heard of in future.

I have just dropped across a story entitled, "The flowering of the strange Orchid," which puts that of the "village of the demon flower" quite into the shade, and I fear that my congratulations on the failure of that expedition were a little premature. It would appear that one Winter

Wedderburn was an enthusiastic amateur of Orchids, and, as need hardly be explained, was in the habit of visiting the Sale Rooms where things new and strange are sometimes to be found. One day, after a preliminary announcement to his housekeeper that he felt as if something was about to happen, he started out to attend a great sale of Orchids from India and the Andaman Islands, the spoils of a collector who was never heard of again, though, of course, his plants were. Nothing very important happened, however, at least so it might appear to the casual observer, though he secured the inevitable "few dried sticks," including the very one under which the collector's dead body was found, and these were deposited lovingly on the dinner table, *pro. tem.*, for the facts being detailed over the soup nearly led to a contretemps, and the things had to be removed in deference to the prejudices of the worthy housekeeper. Next day there were great preparations for potting the new arrivals, which being duly accomplished, they were placed in the Orchid house, and progress was reported from time to time. Eventually all proved dead but the one aforementioned, on which a new growth appeared. Nothing, however, would reconcile the worthy housekeeper to it; it was enough that she saw the "tentacles" gradually developing. In due time the buds appeared, and the psychological moment was at hand when they would unfold their mysteries. Our hero now sallied forth to inspect the wonder. It would at least be a new species, possibly a new genus. He entered the house. Could it be? Yes, there were the strangely marked blossoms, and he inspected them eagerly. They were scented, too. But what is this?—a haze floated before his eyes, his head began to swim, he swayed and—Had the sight been too much for him?

Dinner waited, but our hero came not. Had he not gone to inspect the new Orchid? so our housekeeper wended her way in that direction. But on opening the door what a sight met her view. There was our hero on the floor, with the tentacles of the plant entwined around his prostrate form. The brave woman rushed to the rescue. But the smell! Her head, too, began to swim, and another catastrophe was imminent. Quickly realising the situation she made a dash for the door, which she fortunately reached in time, and with a suitable weapon the glass of the structure was quickly demolished, allowing the smell to diffuse. Again she dashed to the scene of the tragedy, and this time succeeded in rescuing our hero from the clutches of the monster, whose tentacles naturally received considerable damage. The handy man now turned up, and the victim was borne off to the house, where he was slowly nursed back to life again. This is the outline, and my readers can fill in the details for themselves as they please, should they fail to fall in with the original.

Is not this the Orchid of the demon village seen from a somewhat nearer standpoint? My readers will remember that the members of the expedition were only able to view it from a respectful distance through their field-glasses, and, under these circumstances, they might easily have overlooked the tentacles. It is true that the Andaman Islands are not exactly in Brazil, but with such a substantial agreement in the main facts one can easily overlook a few discrepancies in detail. And here the matter must be left for our experts to decide.

— ——

And now, joking apart, let me ask is it any wonder that the general public entertain some remarkable notions about Orchids when such preposterous absurdities and gross distortions of facts are put before them? A phrase once applied to Orchids in a somewhat different sense may be repeated here:—"It is high time such noxious superstitions were dispersed."

ARGUS.

A SACRED ORCHID.

MR. CHARLES ANDRE, in *Le Journal des Orchidées*, gives an account of his experiences when on a botanical expedition by the shores of the river Amboan, which, though interesting to read when safe at home, gives a good idea of the unexpected dangers often incurred by botanical collectors. M. André was in search of Cœlogyne aspersa, and happened to be in a Dyak hut when the natives were sorting rice preparatory to sowing it. In the evening a noisy procession entered the hut and the females who were among them laid with much ceremony large bouquets and garlands of the longed-for Orchid on and around the stores of rice. Such was the quantity of blooms that the perfume was so powerful as to drive the explorer out of the house to spend the night in his boat. He afterwards heard that seed-time, as well as harvest, is an important season to the natives, who are dependent on their crops, and that he had witnessed rejoicings caused by the abundance that year of the Cœlogyne asperata blooms, which were believed to herald an equally fertile harvest. When, some time later, M. André returned to the spot with, among other treasures, a load of the all-important Orchid he found himself the subject of passionate grief and hatred, and that his only chance of safety was in a generous distribution of money and tobacco and a speedy flight. He had, in the opinion of the Dyaks, committed an act of sacrilege in gathering plants sacred to them, the lives of which they believed were in some way connected with their own.—*Gard. Chron.*, 1890, viii., p. 566.

RODRIGUEZIA PUBESCENS.

THE history of this very handsome species, together with a figure of a very beautiful specimen from the collection of R. Brooman White, Esq., of Arddarroch, were given at page 337 of our first volume. The following interesting note by Mr. E. O. Orpet, South Lancaster, U.S.A., appears in *Garden and Forest* for August 26th (p. 348):—

"This is one of the most beautiful of Orchids, considering the wealth of bloom produced from comparatively small plants; the sprays are long, arching gracefully, and the flowers are of the purest white, with a trace of yellow on the lip. This plant is not new, it having been well known at the time of its introduction, just fifty years ago, but like many other Orchids, as, for example, Cattleya labiata, it became scarce after a time, and not until the re-discovery of the Cattleya did this Rodriguezia appear again. Both Orchids come from the same part of Brazil, Pernambuco. Our plant, in a small pan, had twelve flower-spikes, and it was exceedingly pretty when in bloom, but owing, probably, to the intense heat at the time, and the amount of moisture present in the atmosphere, the flowers only lasted a few days. They seem to be self-fertilising, as a number of the caps containing the pollen were found on the bench under the plant, some at quite a distance, as though they were forced off by some mechanical means, such as those developed in Catasetum and other genera, and a day or two later many of the seed-vessels began to swell. The flowers were evidently impregnated without artificial aid, not common among Orchids, though there are well-known exceptions to the rule. It would be interesting to learn if other cultivators have had the same experience with this Rodriguezia, as I can find no record of this in any work to which I have access. We find it best grown in a pan or other open receptacle suspended in the warmest house the roots are slender, and seem to avoid the compost of living moss as much as possible, preferring to grow out and breathe in the moisture in the atmosphere. It was tried among the Cattleyas for a time, for we thought this ought to be the place for it, as it is found growing with them, but some of the young growths soon began to decay. It evidently was not warm enough there, so it was taken back to the warmest house, where it has prospered. When re-introduced into cultivation, like many more plants, it was thought to be new, and was named afresh R. Lindeni, but it was speedily located in published descriptions of the earlier part of the century, and will henceforth, no doubt, be often seen in gardens."

We do not remember to have observed that the flowers of this species are self-fertilising, and should consider the occurrence as exceptional.

ONCIDIUM PANDURATUM.

THIS distinct and pretty Oncidium, which flowered in the collection of Welbore S. Ellis, Esq., Hazelbourne, Dorking, in October, 1894, was again exhibited at the Royal Horticultural Society's meeting on September 8th last. It is a native of New Granada, and was sent home by Mr. A. Millican, with Odontoglossums, in 1891, and was described early in 1895 (Rolfe, in *Kew Bull.*, 1895, p. 9; *Orch. Rev.*, III., p. 83). The species is allied to O. bracteatum, Rchb. f., and O. anthocrene, Rchb. f., but has smaller flowers, which are borne in a narrow panicle about two feet long. The sepals and petals are deep chestnut-brown with crisped-undulate narrow yellow margins, and the lobes of the small pandurate lip are bright yellow, with a shining brown disc. The column is without wings. It has much of the habit of an Odontoglossum, and the pseudobulbs have some broad blackish bars at the base. It is a very distinct species, and at present we do not know of its existence in any other collection.

THE HYBRIDIST.

LÆLIO-CATTLEYA × BRYAN.

THIS is a handsome hybrid raised in the collection of Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, from Cattleya Gaskelliana ♀ and Lælia crispa ♂, to which an Award of Merit was given on September 8th last by the Royal Horticultural Society. It is comparable with L.-c. × exoniensis, but the front lobe of the lip is of a nearly uniform crimson-purple, except for the paler much-crisped margin, as in the Cattleya parent. On the whole it most resembles the last-named, the sepals and petals being light rosy-purple; but in the shape of the lip, the yellow throat, and the shape of the segments, the influence of Lælia crispa is distinctly seen. It is a large and handsome hybrid, the petals measuring over $1\frac{3}{4}$ inches broad. It is one of the many fine things raised by Mr. Murray.

CYPRIPEDIUM × ROTHWELLIANUM.

A distinct and very pretty hybrid between Cypripedium Argus ♀ and C. Stonei ♂ was exhibited by Messrs. F. Sander & Co. at the Royal Horticultural Society's meeting on September 8th last, under the above name. It bore a raceme of two flowers, which well combined the characters of the two parents. In general shape it may be compared with one or two others of the Morganiæ type, the characters of C. Stonei being most apparent. The dorsal sepal is greenish-white, delicately lined with faint purplish lines, the petals somewhat similar in the ground colour, with several dark brown blotches, and the front of the lip of a reddish-pink tinge. The shape is good, the ground colour clean, and the blotches, on the petals, derived from C. Argus, set the flower off to advantage. It is a very promising thing.

CATTLEYA × EUPHRASIA.

Another handsome hybrid raised in the establishment of Messrs. James Veitch & Sons, from Cattleya Warscewiczii ♀ and C. superba ♂, to which an Award of Merit was given by the Royal Horticultural Society on September 8th last. The flower is of good form and substance, and most like the seed parent in general character. The sepals and petals are bright rose-purple, and the lip subentire, rich crimson-purple in front, the throat nearly white, with a pair of light yellow blotches at the sides, and some reddish nerves towards the base of the disc. The features of C. superba are less prominent than might have been expected.

CYPRIPEDIUM × CALCEOLUS-MACRANTHOS.

ALL the natural hybrids of the genus Cypripedium from tropical regions which have hitherto appeared have been described in our pages, and it will therefore be interesting to add an account which appeared some time ago of the single example known from temperate regions:—

"The appearance of a genuine natural hybrid in the genus Cypripedium is a matter of considerable interest, as until quite recently no single example was known, notwithstanding the facility with which they can be raised in gardens by artificial means. Few of the species grow together in a wild state, however, so that few opportunities occur for the flowers to be cross-fertilised by insects. C. Calceolus and C. macranthos are both natives of Siberia, and we now know not only that they grow intermixed, but that they may be cross-fertilised. M. Barbey, of Geneva, has recently published an account of a natural hybrid between them, and given an excellent coloured plate of it, together with its two parents. About ten years ago the late M. Edmond Boissier obtained a batch of plants of C. macranthos, which were planted on the rockwork of the garden at Valleyres. After several seasons they flowered, and among them appeared not only macranthos, but C. Calceolus, and a third form, quite intermediate in character, which, after careful examination, M. Barbey was convinced was a natural hybrid between them. It appears that in the Birch forests of Western Siberia, whence the plants were obtained, these two species occur indiscriminately intermixed. The plate amply proves M. Barbey's contention, as the hybrid is intermediate in every respect, just as in the multitude of artificial ones I have examined. The flower is smaller than C. macranthos, and much paler in colour, the dorsal sepal narrower, more acute, and shaded with brown, the petals longer, and twisted; the lip intermediate, but slightly fluted, as in C. macranthos; and the staminode and lower sepal also thoroughly intermediate. It is not only extremely interesting, but decidedly handsome.—Rolfe in *Gard. Chron.*, 1892, xi., p. 394.

CATTLEYA × HARDYANA.

ANOTHER natural hybrid must be added to the list of those whose parentage has been proved by experiment, namely, the handsome Cattleya × Hardyana. Two artificially raised plants were exhibited at the meeting of the Royal Horticultural Society on September 8th, from the collection of Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, and, needless to say, attracted a good deal of attention. These, Mr. Murray states, were obtained by crossing Cattleya Dowiana aurea with the pollen of C. Warscewiczii (gigas), the cross being made in August, 1887, the seed sown twelve months later, and the first flowers expanding in August of the present year, the plants thus being eight years old. One of them bore a single flower, and the other a spike of two, which were quite identical with some forms of the wild plants. The sepals and petals are rosy purple, most resembling those of C. Warscewiczii; the front lobe of the lip rich crimson-purple, and very undulate; the disc bearing some of the characteristic golden veining of C. Dowiana, while on the sides of the throat are two deep yellow blotches. It is a very interesting matter to have the parentage thus confirmed, and as there are additional seedlings of the same batch which have not yet reached the flowering stage, it will be curious to watch whether any of them prove more like the seed parent than the two above-named. Possibly some one may have tried the reverse cross, and whenever the plants flower it will be interesting to note the result. Probably some of the choice white varieties will in due time appear, and in any case the present example is sure to lead to renewed efforts to obtain them artificially. Whether they are more likely to result from the reverse cross, or whether they appear exceptionally as single individuals among batches of the coloured forms is at present quite uncertain; meantime, however, we may note that in the present examples the flowers most resemble the pollen parent in colour.

AN AMATEUR'S NOTES.

THE dull season is now about over, and the usual autumn-flowering species are rapidly putting in an appearance. Even such autumn flowerers as Cattleya labiata and C. Bowringiana have some buds now well advanced: and having grown so well during the past summer, will soon make a superb display. The same may be said of Cypripedium insigne—indeed, a flower on a very forward plant has already expanded. The two Cattleyas of this particular season are C. Dowiana and C. × Hardyana. Both are superb, and I am never tired of admiring their beauty. Several of the former, however, are still in bud, and the display will be finer in a week or two. C.

elongata has also put in an appearance, and is very pretty, though not yet equal to what we were led to expect. Lælia Dayana is still good, and the pretty little orange-coloured L. monophylla is just now very attractive, while Lælio-cattleya × elegans and L.-c. × Schilleriana are not yet over. They have been very good this season.

Oncidiums are always to the front in the autumn, and the species of the O. crispum group are now very gay. There is O. crispum itself, with a great panicle of its large and handsome brown flowers, with a little yellow on the lip; the equally brilliant O. Marshallianum, in which the yellow as strongly predominates; the handsome O. Forbesii; the clear yellow O. concolor, which, as well as O. Marshallianum, is even better in June; the pretty white and purple O. incurvum with its large panicles of flowers, O. ornithorhynchum with much branched panicles of light-purple flowers, O. cæsium, the graceful O. flexuosum; O. obryzatum, the handsome O. sarcodes; and O. micropogon with the lip prettily fringed in the middle. There is something so light and graceful about the Oncidiums that they amply repay any additional attention paid to them. Even Oncidium Papilio, which seems to have no particular season of flowering, is just now bearing several of its remarkable flowers. Odontoglossum grande is another of the showy plants of this season, which no collection is complete without, while in the same house O. Harryanum, Miltonia candida, Cochlioda vulcanica, and Trichopilia fragrans are very attractive. Miltonia spectabilis Moreliana is still making a good show.

I think that without exception Vanda cœrulea is the most beautiful Orchid now in flower in the Cool house. Its flowers are so large, so beautifully reticulated with two shades of lilac-blue, quite unlike anything else, and so gracefully arranged in a noble raceme, that it is scarcely equalled at any season, and Mr. Woodall has shown that the character which some give it of being a bad grower is largely due to improper treatment. Near it stands a plant of the good old *Zygopetalum intermedium* with its bold racemes of handsome and very fragrant flowers. This, too, is unsurpassed of its kind. Other good things now flowering freely here are the handsome Cœlogyne ocellata, Epidendrum prismatocarpum, Restrepia maculata, Masdevallias bella, Carderi, macrura, and Reichenbachiana, which make an interesting variety. A few flowers of the charming little Pleione Wallichiana are also expanding.

In the Warm house several showy things are in flower, first and foremost being a number of plants of Dendrobium Phalænopsis, which make a beautiful display. There is a good deal of variation in colour, and some of the light forms are especially charming. It is a capital thing for cutting, both on account of its long stalked racemes, and for the time the flowers keep fresh in water. D. bigibbum is very good, and its dark purple flowers

contrast effectively with the lighter colours of the preceding. The yellow D. chrysanthemum must also be mentioned as flowering freely, and the handsome D. formosum. Then there is the pretty little Cypripedium Charlesworthii, the gem of the gems, C. tonsum, an early flower or two of C. purpuratum and C. Spicerianum, C. Stonei, the pretty little C. × œnanthum, C. × politum, C. × Ashburtoniæ, and a number of other hybrids which invariably make a good display at this season. Selenipedium × Sedeni, and others of the group, are also very good just now. The principal remaining Orchids in flower in this house are some good trusses of Vanda suavis, the pretty little Angræcum Scottianum, and some plants of Phalænopsis Esmeralda, P. rosea, and P. violacea.

The plants generally have made very good growths this season, partly on account of the large amount of sunshine and the abundance of air which it has been necessary to give, and almost everything promises a good display of flowers at the proper season. There can be no doubt that most Orchids like plenty of light and air, and with a due attention to shading and damping down they succeed better than in cold, wet, and comparatively sunless years.

AMATEUR.

CYPRIPEDIUM × HARRISIANUM VIRESCENS.

THE freaks of Cypripedium × Dauthieri have been recorded in our columns, and at page 239 of our August number a case of sporting in C. × Harrisianum, which led to an action at law, was noted. We have now another case to record. Cypripedium × Harrisianum virescens is a green variety, which was described at page 235 of our second volume, from a plant in the collection of H. Little, Esq., of Twickenham, and a year later from another which appeared with M. Peeters, of Brussels (*supra* III., p. 296). Mr. Little's plant passed into the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell, a small piece being retained by Mr. Little. This has now flowered as an ordinary light form of C. × Harrisianum, and suggests the probability that it originated as a sport and has now reverted back again. This point about its history has never been cleared up. Mr. Little remarks that when he obtained the plant it was potted in loam and was rather starved, but it is now in peat. Whether these facts had anything to do with the plant's peculiarities we cannot say. It would be interesting to learn the behaviour of Mr. Measures' plant. Also to know how and when the variety originally appeared. The future behaviour of these plants will be watched with some curiosity.

CYPRIPEDIUM × THAYERIANUM.

"HORTICULTURE is said to be progressive, and we venture to think that botany or botanical nomenclature is also, and if the attempts constantly made to classify and re-arrange the work of the hybridist are to be taken seriously, ordinary cultivators will never be able to keep pace with the progress. Cypripedium Boxallii has for nineteen years been generally regarded as a well-marked variety of C. villosum. The flower is different structurally, and there appears to be no evidence of forms merging into the type species, but a late writer on the subject, Hansen in *The Orchid Hybrids*, has suddenly decided that C. Boxallii must henceforth be considered the same as C. villosum, and a host of hybrids having the former for one parent must then be considered as synonyms, and cultivators will have to begin to learn over again the names of the plants they possess. C. × Thayerianum is one of these: it is the result of a cross between C. Lawrenceanum and what is known as C. Boxallii atratum, a dark form, having the large flowers and rich wine colouring of C. Lawrenceanum, with the high polish of C. Boxallii atratum over the whole surface of the flower. Among hybrid Cypripediums it is considered one of the best, and it improves each year in size and colouring, is of healthy vigorous growth, and was raised by the Messrs. Sander, of St. Alban's, England. It remains to be seen whether Mr. Hansen's many innovations will be generally accepted by botanists, but from the cultivator's standpoint it will make confusion worse confounded. The above is only one of the many reforms suggested."—E. O. Orpet in *Garden and Forest*, August 26th, p. 348.

[This touches on a point which has been referred to us on two or three different occasions, namely, whether Cypripedium Boxallii is a distinct species or only a variety of C. villosum, and it opens the old question, "What constitutes a species?" to which an answer was attempted at page 266 of our last volume. Those who agree with the line of argument there adopted will probably agree with us in regarding C. Boxallii as distinct from C. villosum, at least as a sub-species, and not a mere variety. We have seen hundreds of plants of both, but never yet saw one of which there could be any doubt to which it belonged. And there are several species of Cypripedium which have been crossed with both C. villosum and C. barbatum, and we believe that in every case the hybrids are distinct too. Compare C. × Lathamianum and C. × Calypso, C. × Harrisianum and C. × apiculatum, C. × Germinyanum and C. × Godsethanum, for example. It was not Mr. Hansen who first reduced C. Boxallii as a variety of C. villosum, and even he has arranged the hybrids of the two separately in a supplementary note on pages 184-186, so that it is still possible to trace the respective hybrids of each from the work. Until it can be shown that

these two plants pass into each other we feel justified in regarding them as distinct. There are many cases of closely allied species of Orchids which are yet distinct in the sense here indicated, and we have to investigate the differences which occur in Nature rather than to point out how we would have them to be.—Ed.]

ORCHIDS AT TWICKENHAM.

Among the interesting Orchids now in flower in the collection of H. Little, Esq., The Barons, East Twickenham, is an exceedingly handsome form of Cattleya × Hardyana, of the Massaiana or marmorata type. The sepals and petals are beautifully marbled, and the latter veined with white on a rose-coloured ground, the front lobe of the lip deep rich velvety crimson, which extends round the side lobes as a narrow margin, and the disc and side lobes with the yellow blotches and golden veining almost as in C. Dowiana aurea, forming a most harmonious blending of colour. The raceme bears two flowers, which are quite intermediate in shape between the two parents, and the sheath is six inches long. Side by side with it is a form of C. Dowiana with a dark lip and no trace of the yellow blotches at the sides, but the sepals and petals clear yellow. The sheath is $3\frac{1}{4}$ inches long. About a dozen others are showing flower, and as one has a sheath as long as in C. × Hardyana its development is being carefully watched. C. labiata and C. Bowringiana are also showing for flower, and a few are already bursting their sheaths. Cattleyas and Lælias are generally strongly represented in the collection. Five plants of Lælio-cattleya × Schilleriana are carrying seven spikes of bloom, and two of L.-c. × elegans are still out, but about a dozen are just over, including the handsome variety Littleana. Five nice plants of Miltonia spectabilis Moreliana are just at their best, also Vanda Kimballiana, while V. suavis, Dendrobium formosum, and D. Phalænopsis are making a good show. Among Cypripediums may be mentioned several plants of C. Charlesworthii, C. tonsum, and C. t. superbum, C. Chamberlainianum, C. niveum, C. Haynaldianum, C. Stonei, C. Spicerianum, with the inevitable hybrids, including C. × œnanthum superbum, × Crossianum, × politum, × superciliare, × marmorophyllum, polystigmaticum, × Laforcadii, × Mrs. Canham, × vexillarium, × Seegerianum, × apiculatum superbum. Those who grow these plants can rely upon having some flowers throughout the year. A batch of Vanda Hookeriana is thriving splendidly in a low house close to the glass in full sunshine without a particle of shading, which suggests a method of treatment for those who fail to succeed with it.

A SUMMER CAMP FOR ORCHIDS.

An illustration of a Summer Camp for Orchids at Troy, New York, U.S.A., is given in the *Gardeners' Chronicle* for September 19th last (p. 337, fig. 62), together with the following note:—"In climates having more summer warmth than the warmest parts of these islands, cultivators of Orchids find it beneficial to these plants and other inmates of warm houses to place them out of doors during the summer months, taking care not to expose without shading plants liable to injury by direct sunshine, and to keep the ground moist on or above which they are placed. Mr. A. Dimmock, of Messrs. F. Sander & Co., The Nurseries, St. Albans, Herts, to whom our thanks are due for the use of the photograph from which our illustration (p. 337) was taken, sends us the following note: 'About May 1st A. R. Smith, Esq., removes all his plants from the houses into the open air, and places them on wooden stages, where at all times they are surrounded with pure air and ample shade from the trees. The collection includes some magnificent specimens of Cœlogyne cristata hololeuca (three feet across), and a quantity of small plants, fine examples of C. ocellata maxima (about 100 plants), C. Massangeana, C. Sanderiana, C. flaccida, C. Dayana, and others. Vandas and Aërides thrive well, and several may be noticed in bloom. Cymbidium eburneum and C. Lowianum, &c., also make very vigorous growths, and at the rear a fine lot of Cypripediums in bloom make an extraordinary display. They all remain outside until the end of September, and are afterwards removed to their winter quarters, and grown comparatively cool, which enables the plants to pass through the excessive winter months without any difficulty.'"

BOTANICAL ORCHIDS AT KEW.

Among the interesting Botanical Orchids flowering in the Kew collection three species of Cycnoches may first be mentioned, the handsomely spotted C. pentadactylon with its five-toothed lip, the striking C. Loddigesii, and C. chlorochilon, the best-known species of the genus, in each case the flowers being exclusively males. It is only occasionally that the females occur. Another remarkable species of the same group is Mormodes Cogniauxii, a recent addition to the genus. A collection of these plants and the allied Catasetums would be extremely interesting. Oncidium dichromum, which under its old name of Odontoglossum bicolor remained a mystery for so many years, but which was re-discovered about a year ago, is also flowering, but very weakly at present. Its history has already been given (*supra*, III., p. 363). Again, O. trulliferum and O. cæsium, with

several of the better known kinds are out, with Odontoglossum crocidipterum, a rare species allied to O. blandum. A good plant of the pretty little Sigmatostalix radicans is bearing several racemes of flowers, which remind one of some small white-lipped Oncidium. Trichocentrum Hartii and Aspasia variegata are two other interesting plants belonging to the same group. Several species of Epidendrum may also be mentioned, as E. inversum, E. latilabre, the remarkable E. equitans, E. fragrans, and E. osmanthum. Spathoglottis Fortunei and S. plicata var. Micholitzii are still in flower, also the handsome Stenoglottis longifolia, which was mentioned two months ago. Another handsome terrestrial species is the old Habenaria Susannæ, of which a figure was given at page 209.

Dendrobium alpestre is a very pretty little Himalayan species bearing half-a-dozen graceful racemes of white with some purple on the lip. Other members of the genus are D. bicameratum and D. bracteosum. Bulbophyllum recurvum is a West African species with dense racemes of green flowers; and Liparis cuneilabris, one of the few Australian species in cultivation. Of the Pleurothallis group may be mentioned a specimen of P. pulchella with many graceful spikes of light green flowers, and the pretty little P. picta, also Stelis discolor, the pretty little hybrid Masdevallia × Measuresiana, Phalænopsis cornu-cervi, and Sarcanthus pallidas are flowering well, the latter bearing a large branching panicle of numerous flowers. Arachnanthe bilinguis, Xylobium scabrilingue, Isochilus linearis, Lycaste macrophylla, and L. Schilleriana are the principal remaining ones flowering at this season.

LÆLIO-CATTLEYA × CLIVE.

THIS very handsome hybrid was exhibited at the Royal Horticultural Society's meeting on September 8th last, and received a First-class Certificate. It was raised in the collection of Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, from Cattleya Dowiana ♀ and Lælia præstans ♂, and was previously exhibited on September 12th, 1893, when it had not reached its full development. The flowers now measure five inches from tip to tip of the petals, which latter measure $1\frac{3}{4}$ inches broad, and with the sepals are of a bright rosy purple shade. The lip is large and very richly coloured, the front lobe being two inches broad, beautifully crisped, and of the richest deep velvety crimson-purple, with dull orange throat, and some almost black nerves which extend on to the base of the front lobe, giving a very rich effect. On the whole it takes most after the Lælia parent, but the plant is more robust, and the flower enlarged, owing to the influence of the other parent. It can best be compared with L.-c. × Ingramii, in which the allied Lælia Dayana was one of the parents.

CORYANTHES MACULATA VAR. VITRINA.

Our present illustration represents the remarkable Coryanthes maculata var. vitrina, Rolfe, which was described a little over a year ago (*supra*, iii., p. 240), on its appearance in the establishment of Messrs. F. Sander and Co. It has now flowered in the collection of Dr. Hodgkinson, The Grange, Wilmslow, Cheshire, to whom we are indebted for the photograph here reproduced. The flowers are almost self-coloured, not spotted, as in the type, the sepals and petals being light greenish-yellow, the hood and column a little paler yellow, and the rest of the lip a semi-transparent shade of very pale yellow with a slight dash of palest green. The name was given in allusion to its glassy appearance. It was imported from Central America. Dr. Hodgkinson remarks that on first opening it was

Fig. 15.—Coryanthes maculata var. vitrina.

a beautiful object, owing to the lower sepals being expanded like a bat's wings, but after a few hours these rolled up and assumed the appearance seen in the photograph. The odour is peculiar, being that of a ripe pear.

Like their allies, the Stanhopeas, the flowers are rather fleeting, and as the plants are often found difficult to keep long in health, they are not so much grown as they might be, though no Orchids are more remarkable in structure, and some, at least, are decidedly handsome, the beautiful C. leucocorys, Rolfe, for example. Dr. Hodgkinson remarks that he finds these plants soon die if grown in the stove, as they rapidly make new growths

before the previous ones have formed pseudobulbs. He therefore grows them in a cooler and brighter house with the Mexican Lælias, and here they do well. The peculiar conditions under which they grow have been pointed out by different observers, and a very interesting account by Mr. James Rodway was reproduced at page 41 of our last volume, together with a figure showing a plant of C. macrantha in flower in its native habitat. It is interesting to glance at this picture and remember that in the mass of fibrous roots a garrison of carnivorous ants is almost invariably found. There they make their nest, and in return for the shelter provided they defend the plant against the attacks of cockroaches and other insect enemies. Other plants sometimes take advantage of this protection, and Mr. Rodway records one clump containing two distinct species of Coryanthes, a Bromelia, several Anthuriums, and a young shrub, all growing in a ball hardly a foot in diameter.

It is sometimes supposed that the presence of these ants is essential to the well-being of the plant, and Mr. Rodway remarks that when specimens are brought into gardens in the tropics, these useful tenants having been removed by the collectors by soaking in water, they are particularly subject to the attacks of insects, and rarely thrive for any length of time. But under cultivation in European hot-houses, where the protection of the ants is not required, the plants will succeed under proper treatment.

A full account of the structure and fertilisation of this remarkable genus may be found at page 338 of our second volume, and a figure of C. macrocorys, Rolfe, at page 265 of the following one, and a comparison of the three figures will show some of the differences which occur in the genus.

The photograph here reproduced is an excellent one, and shows not only the pair of horn-like glands which secrete the liquid which falls into the bucket-shaped lip underneath, but each shows a glistening drop of the liquid just before it falls. It is a pity we cannot add the little group of metallic green and gold bees (Euglossa aurata), which invariably find out these flowers when they expand in their native habitat, and come buzzing round, creeping under the hood-like appendage of the flower, and then flying off or dropping into the pool below. At all events, we can imagine one of them floundering in the shallow liquid, its wings bedraggled, its vain struggles to climb the slippery sides of the bucket, and finally its triumphal exit through the narrow opening between the lip and the column, with the yellow pollen masses affixed to its shoulders. It reads almost like romance that the insect, in spite of its troubles, should hurry off to another flower and repeat the process, this time leaving the pollen on the stigma, and thus effecting fertilisation. Yet the fact has been observed over and over again, and warns us not to judge the experiences of others exclusively

from our own standpoint. It is evident that the bees, ants and flowers get along together in a surprisingly effective and harmonious way, in spite of any sentiments we may have about the matter. We should much like to see these remarkable plants better represented in our collections.

THE CATTLEYA DISEASE

We have received some examples of diseased pseudobulbs of Cattleya Dowiana aurea from Mr. E. Pidsley, gardener to Richard Ashworth, Esq., Ashlands, Newchurch, Manchester, with request that we should ascertain the cause of the attack, if possible. In some cases the mischief commenced in the leaf, and in others at the base of the pseudobulb or in the rhizome, the plants hanging side by side with others which remain perfectly healthy. Mr. Pidsley has seen several plants in other collections affected in the same way, and in each case the gardener was unable to suggest any cause for the attack. We also have seen it in this species, and exceptionally in C. labiata and C. Trianæ, if not in others, and once it was a good plant of C. × Hardyana (of which C. Dowiana aurea is one parent) which suddenly went off without any apparent cause. We believe that some time ago some diseased portions were submitted to microscopical examination, with a view to ascertaining if any fungus was present which would account for the mischief, but the result was negative or doubtful, as the only fungi present were such as live upon decaying tissues, and not the cause of the disease. In the case of the "Spot" disease, it was shown that the initial cause was the presence of minute drops of water on the surface of the leaves at a time when the temperature is exceptionally low, and the roots copiously supplied with water (*supra*, p. 19), and this confirmed the opinion of those who held that "spot" was simply the result of improper treatment, and not of a parasitic fungus. Whether this disease of Cattleyas can be attributed to similar causes, or to some parasitic fungus like that which produces the Vanilla disease (*supra*, III., p. 51), is at present doubtful. It would appear, however, that the disease is not contagious, and this rather points to its not being of fungoid origin. Cattleya Dowiana is usually considered difficult to grow, though some people succeed very well with it, and we should be glad to know of any special treatment which has been applied with beneficial results, as well as of any conditions which seem to favour the disease. Almost every grower has experience of some kind or other with this beautiful Cattleya, and a comparison of notes might yield some useful information. The disease is not a new one by any means, and whether it be of fungoid origin or not it is important to know how to combat it successfully.

NOVELTIES.

ONCIDIUM JONESIANUM FLAVENS.—A curious variety, in which all the spots have vanished from the sepals and petals, which are slightly barred with pale yellowish green, and the lip white, with the usual markings. It flowered in the collection of T. Statter, Esq., Stand Hall, Whitefield, Manchester, and afterwards with Mr. James Cypher, at Cheltenham.—O'Brien in *Gard. Chron.*, July 4, p. 9.

EPIDENDRUM XIPHEROIDES, Kranzl.—A Brazilian species, which flowered with Messrs. F. Sander & Co., St. Albans. It is very nearly allied to E. xipheres, Rchb. f., which is figured at t. 111 of the *Refugium Botanicum*, but is said to differ in having much larger bulbs and smaller flowers of a different colour. The sepals and petals are dark green with sordid purple lines, and the lip golden-coloured with a thick whitish callus. -*Gard. Ghron.*, July 18, p. 63.

CYRTOPODIUM MICRANTHUM, Kranzl.—A Brazilian species which flowered with Messrs. F. Sander & Co., St. Albans, in June last. It is said to be like a small-flowered form of C. maculatum, Lindl., but to have the side lobes of the lip more developed, and the front lobe larger, obovate, and rounded at the top. In colour, it is like a pale form of C. maculatum.—*Gard. Chron.*, July 18, p. 63.

CIRRHOPETALUM GRAVEOLENS, Bailey.—A large-flowered species brought from New Guinea a few years ago by Sir Walter Macgregor, which has now flowered in the greenhouse of the Brisbane Botanic Garden. It is a showy species, but the strong disagreeable odour of its flowers will probably prevent its becoming a favourite in cultivation, except where collections of these curious and beautiful plants are kept. The strong odour of the flowers seems to have the effect of attracting and stupefying flies, so that when by the turning over of the labellum they become jammed between that organ and the column, they are unable to extricate themselves, and die. The leaves are 12 inches long by $4\frac{1}{2}$ inches broad at the top; and the scapes 6 or 7 inches high, bearing a short raceme 7 inches in diameter, composed of about 13 strongly-scented flowers, which are so crowded as to appear almost umbellate. Colour yellowish, tinged with green, and the inner face of all the segments more or less speckled with red, and the lip reddish brown, changing to deep purple. –F. M. Bailey, *Contributions to Queensland Flora*, *Botany Bulletin*, xiii. (1896), p. 33. This is evidently the fine Cirrhopetalum robustum, Rolfe, described in this work three years ago (vol. 1, p. 175), which received a First-class Certificate from the Royal Horticultural Society on June 11th, 1895.

CYPRIPEDIUM × ATROPOS AND C. × TAUTZIANUM.

I AM sending you two blooms of Cypripedium × Atropos (together with the two parents) as an example of the wide divergence possible, both as to form and colour, in the flowers of seedlings emanating from the same seed-pod.

The influence of both parents, Cypripedium × Ashburtoniæ expansum (Cookson's variety) ♀ and Cypripedium purpuratum ♂, can be readily seen in each of the seedling flowers, but while in the smaller flower the good qualities of each parent appear to be compressed, in the larger flower it is the less desirable qualities that are reproduced. The inference to be drawn from this is that the purchase of unflowered seedlings, even where the parentage is undoubted, is to some extent a lottery, and that the raiser of a batch of seedlings may find some among the number by no means equal to others, while, on the other hand, if the first seedling to flower is a disappointment, there is no occasion to despair as to the quality of those still unflowered.

I still hope to flower one of the batch of seedling Cypripedium barbatum ♀ × Cypripedium niveum ♂ (*Orch. Rev.* III., p. 201), in which the influence of the pollen parent will be unmistakable. I have so far flowered eight out of the fourteen seedlings raised, and the only effect of Cypripedium niveum that I can perceive is that the climbing propensity of Cypripedium barbatum appears to be completely checked, the plants remaining squat.

Twin-flowered spikes are more common with me this year than usual, as I have at the present time spikes of Cypripedium × Harrisianum, C. × œnanthum superbum, C. × Laforcadei, C. × T. B. Haywood, C. × Ashburtoniæ calospilum, C. × A. expansum, and C. × Massereelianum, all carrying two flowers.

REGINALD YOUNG.

Liverpool,
September 15th, 1896.

[The flowers sent are very interesting. The small flower of C. × Atropos is like the original one described at page 292 of our last volume (where the history of the plant is given), and bears a remarkable resemblance to the pollen parent in size, shape, and colour, though the petals are narrower and scarcely spotted at the base, and the dorsal sepal is less reflexed, and has broader stripes. The large one is much nearer the seed parent in size and shape, though it has more of the purple tint of the pollen parent—in fact, in colour and markings it is about intermediate between the small flower and the seed-parent, with the dorsal sepal more reflexed at the sides. These features render the group very striking and

interesting, and we do not remember another instance showing quite the same remarkable character. One seedling may very well be said to be much like its father, and the other almost as much like its mother. The other cross mentioned is also remarkable. Its history has already been given, as above indicated. The seedlings ought to be varieties of C. × Tautzianum, which, however, they resemble very little, except in the dwarfed habit, which shows that the influence of C. niveum is not quite absent.—ED.]

A HANDFUL OF NATAL ORCHIDS.

SEVERAL species of South African Orchids have become familiar in gardens during recent years, and among them two or three from the Natal district. In 1886 Mr. R. W. Adlam published some notes under the above heading, in which he enumerated the following eight as among the showiest of the Natal species:—Eulophia ensata, Lindl., E. Dregeana, Lindl., Lissochilus Krebsii, Rchb. f., Satyrium candidum, Lindl., S. carneum, Lindl., Disa polygonoides, Lindl., D. macrantha, Lindl., and Disperis Fanniniæ, Harv. The two Satyriums are in cultivation, as well as S. sphærocarpum, Lindl., which is not enumerated. Concerning their culture Mr. Adlam remarks:—"Our Orchids flower in the moist season from November to March, during which time they enjoy much rain and sun alternately. From April to October rain is scarce—a slight shower every month on the average; but—and I wish to draw special attention to this—the soil beneath the surface does not get dust-dry. Nearly all our Orchids, save Lissochili, delight in a heavy retentive black loam or red clay, interlaced with grass roots; during winter the air is very clear and the dews are heavy, and of course the dry grass absorbs a good deal of moisture. There is no deep secret in the cultivation of terrestrial Orchids; we see Disas and Satyriums growing alongside of Gladioli and Gazanias, and surely anyone can grow the last named. Lissochili and Eulophias, from the nature of their rhizomes, have an indefinite life, but the members of the great tribe Ophrydeæ seem to live but a few years. Take Disa polygonoides for instance. The first year's seedling will be a tiny plant about two inches high, the second year it increases in strength, the third it flowers, the fourth a stronger spike is sent up, and then the plant perishes. Disas and Satyriums, however, seed very freely, and there should be no difficulty in thus propagating them. I would advise firm potting in turfy loam with good drainage, and to meddle with them as little as possible. Keep the plants cool and moderately dry in the winter, and give heat with moisture in the summer." *Gard. Chron.*, 1886, xxvi., p. 58.

SELENIPEDIUM × SEDENI ABNORMAL.

THE tendency of Selenipedium × Sedeni to produce abnormal flowers has often been noticed, but one of the most remarkable we have yet seen has been sent from the collection of Colonel Marwood, of Whitby, by Mr. Horner. The ovary is completely confluent with the axis, and the sepals partially so with the bracts of the next two flowers, thus giving the appearance of two buds arising from within the flower itself. The two sepals stand to right and left of the axis, and the front half of each is sepal-like, and the remainder bract-like in texture and colour. Instead of a lip there are three separate bodies, one lanceolate, partly coloured, and occupying the position of the median petal, the other two arising laterally to it, and showing the characteristic spotting, pubescence, and infolded margins of the side lobes of the lip. These are evidently the petaloid stammodes A 2 and A 3 of the Darwinian notation, which in the normal flower coalesce with the median petal to form the lip. The petals and column are not present in a normal condition, though there are about five light-green irregularly crumpled bodies in the centre, and in front of the young buds, which probably represent them -in part, at least- and one of these, which occupies the position of a 2, has an anther below the apex, evidently one of the fertile anthers of the normal flower. Both this and the opposite one are united to two undulate crumpled bodies, which apparently represent the petals—crumpled because the union prevents them from elongating, as they should do—and the one without an anther distinctly shows the median nerve. Most remarkable of all, perhaps, is the presence of a perfect anther, very shortly stalked, immediately behind the median petal afore-named. This is exactly in the position of a 3, the anther totally suppressed in a normal flower, which it evidently represents. The flower had been observed in this condition about a week before it was sent, and was in the condition of a bud a few days before it begins to open, the colours being only partially developed and dehiscence of the anthers not having yet begun. It would have been better if left on the plant until fully matured. The partially-opened condition evidently arose from the fact that the back half of the flower represents the bracts and young buds of the inflorescence, and the union caused the organs of the front half of the flower to develop separately —the lateral sepals free from each other, but united to some bract-like tissue behind, the lip broken up into its three constituent parts, and the additional stamen developed in front, instead of being absent. The irregular development of the intermediate parts is easily explained by the peculiar union of the flower with the axis, and the consequent displacement. The example is interesting for the light it throws on the composition of a typical Orchid flower.

CYPRIPEDIUM × ROSSIANUM.

ANOTHER seedling of the above has flowered in the collection of H. J. Ross, Esq., of Florence, which differs slightly from the original form described at page 359 of our last volume, both in the leaf and flower, but shows the same unmistakable evidence of its descent from C. barbatum and C. tonsum. The inflorescence is two-flowered. A two-flowered inflorescence and leaf of another seedling is also sent, in which each petal of the lower flower bears from twenty to two dozen small dark blotches, while in the upper flower they are not half so numerous, and are almost confined to the upper margin as in C. × Rossianum. The flowers are also smaller, the petals rather more ciliate, and the leaf a little more like C. barbatum, but in other respects the resemblance to C. × Rossianum is so great as to suggest that it is simply a variety of the same. At all events it does not agree with any of the well-known types, and we are unable to find any other species that will account for the characters of the hybrid. Mrs. Ross, in writing, remarks that it may be interesting that many Cypripediums in the collection have two-flowered scapes, including nearly all the plants of C. callosum, C. concolor, and C. × Ashburtoniæ. This affords evidence that the plants are well-grown and very vigorous.

SEED-VESSELS OF ORCHIDS.

IT has sometimes been remarked that Orchids do not seed very freely in a wild state, and Mr. N. Blandford once recorded the finding of a seed-pod on an imported plant of Sophronitis grandiflora as something exceptional. (*Gard. Chron.*, 1885, xxiv., p. 470.) Replying to this remark Mr. James Douglas observed :—" It is perfectly well known that imported plants come over with seed-pods on them, ripe or otherwise ; hundreds of seed-pods may be found clustering on the plants in the sale-room, scores of them on one plant " (l.c., p. 470). We have observed seed-pods on newly-imported plants of Sophronitis grandiflora, and have no doubt that it seeds freely enough in a wild state, as do many, if not most, other Orchids. These plants fail to produce pods under cultivation because the necessary insects are not present, but if the flowers are artificially fertilised capsules are formed in abundance. Where Orchids grow abundantly in a wild state we have no doubt the necessary fertilising insects are there, and generally perform their work satisfactorily. The fact that most Orchids fail to produce capsules without artificial aid of some kind affords conclusive evidence of this, for without their aid no seeds would be produced at all events in many cases—and it is quite obvious that an Orchid which produced no seed would soon vanish from the scene.

CALENDAR OF OPERATIONS FOR OCTOBER.

By H. A. BURBERRY, Highbury, Birmingham.

OCTOBER now being here, it is no longer possible to keep up the temperature to the same high degree as recommended for the past few months. Nor, indeed, is it advisable to attempt to do so, as it would be quite opposed to the requirements of the plants, which would soon show the evil effects. Warm and intermediate growing Orchids having completed their new growth, or nearly so, will delight in nothing so much as a reduction in the temperature, so that they may repose and ripen, free from the over-exciting influences of excessive heat and moisture; while for cool Orchids, of course, a suitable temperature can generally be more readily maintained during the cool weather than when it is so very hot.

The following figures will be a guide to the temperature most suitable for the autumn months :—

Cool house.—Day, with sun, 60° to 65° ; without sun, 55° to 60° : night and morning, 50° to 55°.

Intermediate house.—Day, with sun, 70° to 75° : without sun, 60° to 65° : night, 60° ; morning, 58° to 60°.

Warm or East Indian house.—Day, with sun, 75° to 80° : without sun, 70° ; night, 65° ; morning, 60° to 65°.

Of course it is impossible to maintain these figures always exactly, and no one should attempt it. The inside temperature as well as the outside is bound to fluctuate. It is perfectly natural, and an occasional fall of five degrees on the whole of the above figures will do more good than harm, while for short periods only a fall of ten degrees need not be dreaded, especially if the atmosphere is kept good by careful ventilation.

It is no use grumbling about the weather, we have to take it as it comes, and make the best of it. Before the rain came we were longing for it to cool and moisten the parched up earth. But only hot fierce sunshine was to be had then, from early morn till close of day. To keep up a semblance to a growing temperature within the houses was done only by sheer dint of perseverance, with a syringe and bucket of water, during the greater part of the day. And I must say that I doubt whether any Orchid grower of experience will say that he considers such periods of tropical heat, occurring only at lengthy intervals, does, on the whole, benefit his plants. It was more than they could stand, as they had grown unaccustomed to it. Their tissues, constructed artificially under the usual English climate, collapsed under the strain ; consequently weakly plants shrivelled up, and newly-potted ones retained their plumpness only when tended with extra care and trouble. But this intensely hot and bright weather suddenly changed. Now it is rain, dull weather, and more rain, the atmosphere is reeking with

moisture, and growth is active which was previously very slow. But I am afraid now that the plants will soon suffer from the almost total absence of sunshine. From the time of writing (September 15th) I don't believe we have had here altogether during the last three or four weeks six hours of sunshine. I would prefer weather slightly more mixed and varied.

Dendrobiums, however, have prospered this year more than usual. This seems to point to the fact that it is not only heat they like when growing, but air also. Undoubtedly they have had plenty of the latter this summer, for there has been no stagnant atmosphere. No sooner were the plants syringed than they were dry again, and this kind of thing Dendrobiums seem to enjoy. They have with but few exceptions made up really fine pseudobulbs, long and stout, in fact nothing so far left to be desired. If we can only get enough sun to thoroughly ripen them they will make a grand show of flower next spring. We are now gradually getting our spring flowering kinds in their winter quarters. This is done quite independent of any secondary growth that may have started again from the base; such growths must fare as best they can; we must not keep the plants in a hot growing temperature just for their sake.

Dendrobium Dearei is a species that requires a different and special treatment from most of the others during winter. It is never dormant, it is always either making new growth or flowering. By the appearance our plants now present one would think that the season was spring instead of autumn. The new growths are only a few inches high; consequently they must still be kept growing in a light position in the warmest and moistest house, and given a liberal supply of water, to which this species is very partial. D. Brymerianum is another often late to start away, making it very uncertain when the pseudobulbs will be completed. It should now occupy a similar position, and be given a like treatment to the last-named until the main growths are made up, when it should at once be well rested in a temperature ranging between 50° and 60°, otherwise it will quickly push aerial growths from where the flowers should appear. D. Dalhousieanum is another that is also late; it should receive every encouragement until completed; afterwards, like the last-named, it should be given a decided rest in the same temperature, until the flower spikes begin to push, about April, as these also are apt to turn to growths instead.

Dendrobium crepidatum is a very pretty species, but with us behaves in an extraordinary manner, by appearing so healthy and then suddenly going off dead at almost any period of growth or rest alike. My experience and observation of this species is that it is most susceptible to a check through cold draughts, &c. It seems to require more heat than most of the other deciduous Dendrobiums, and I have no doubt it is collected from hot nooks and corners in its native habitats of Burma and Assam.

I believe the same may be said regarding D. Phalænopsis, D. bigibbum and D. superbiens, although it has been rumoured that some find the first-named grows well enough if subjected to a tolerably cool treatment. There is no doubt in my mind that during the season of active growth a great heat is most desirable for this species. I think as years pass by it will be proved that D. Phalænopsis is not the same vigorous and easy-growing species that the newly-imported plants of the same would have us to believe, so I would advise that they be carefully looked after and kept in good health. No doubt that these hot-growing and warm resting species do, in time, become very late and out of season in localities where the absence of sun is greatest. And when we come to think it over it is no more than we might reasonably expect. Unfortunately, however, the cause of the plant becoming so late and out of season is simply owing to its greatly reduced vitality. The one is the inevitable result of the other. These are disturbances and troubles which a month or two of occasional tropical weather do not always redeem. And these are facts that should always be remembered and allowed for in cultivation. At the same time they must never prevent us from doing our utmost and giving our untiring attention to counteract in every conceivable form all climatic conditions that are unfavourable, and to make the most of those which are favourable.

Syringing or otherwise wetting the plants over-head must now be pretty strictly forbidden in all departments. Of course there may be exceptions when it could be practised with advantage on some plants—such, for instance, that are late in completing their growth, which it is desired to hasten. But it should only then be done first thing in the morning, when the day is likely to be fine. Damping down the floors and stages, too, should likewise now be done much more sparingly, once or twice a day being sufficient, according to the nature of the weather and the amount of warmth required from the hot-water pipes. Do not damp down later than mid-day.

All repotting is now done for the present season, and we shall henceforth be in a position to devote much more time to that important and ever-recurring work, cleaning. It is work that should never be neglected, nor done with clumsy, uncareful hands. Where Orchids are extensively grown there is often so much other pressing work that I fear it is sometimes found impossible to go through the plants and clean them so frequently as could be desired. It is a long and tedious job, and to make a thorough good hand one must have considerable interest in his work, and be possessed of a good amount of patience to enable him to stick at it in the warm damp houses day after day. But, nevertheless, it must be done, and the oftener the better. Every grower should have at his command enough assistance to enable him to keep every plant under his charge absolutely

clean from dirt and free from insect pests. Then his work is a pleasure, and the plants a delight to all who see them. When the plants are once got nicely clean, to keep them so should be his sole aim. That is the easiest way, and insures less labour. On the other hand, if the whole collection is left so long after being cleaned, so as to become again infested with the various pests, then indeed it is a sorry affair, for the plants will never present a respectable appearance. My favourite insecticides are still, as formerly advised; for fumigating purposes, "X.L.All fumigating insecticide"; for destroying all kinds of scale, bug, &c., "Murray's electric insecticide," one part, to five parts of rain water, applied with a small brush carefully, so that it does not run down to the roots, otherwise it is harmless, and need not be rinsed off; and for the general cleansing and sponging of the leaves, &c., "Kilmright" is very effective, cheap, and handy. I dissolve about a teacupful to three or four gallons of rain water.

The winter blooming kinds of Cypripedium and Selenipedium will now be rapidly completing their flowering growths, and commence to push up their spikes. With good drainage and sweet compost they love a liberal supply of water, and no possible harm can occur if watered in moderation throughout the winter. Of course it is always well to be careful, for it is a very bad practice to get the compost soddened. It is better rather to err on the side of dryness from now and throughout the winter months. A few years back Cypripediums were, perhaps, even more popular than they are to-day, if that is possible. The excitement then, which ran so high, caused by the number of beautiful hybrids and new species, swelling the list in cultivation by leaps and bounds, has gradually subsided. Few growers then could have thought the time so near at hand when other popular genera of Orchids would burst upon us at almost the same rate, yet here we are face to face with facts. Cattleyas and Lælias, Dendrobiums and Masdevallias, are flowing in; and, as in the case with Cypripediums, chiefly by means of hybridization. I am told that the future has great things in store; that hybridization has barely commenced; in fact, that the occupation of the collector and importer will soon be gone.

On the subject of raising Orchids from seed, a few hints may here perhaps be useful. It is very interesting work when successful. But first let me sound a few notes of warning. If you have already as much work as you can possibly get through, and have no more time to spare; if you have not houses built on the most modern principles; if you are lacking patience; then don't attempt raising Orchids from seed on your own account, and you will probably save yourself from much disappointment. If you are fortunate enough to have these necessaries at your command, and feel disposed to try your hand, then, in order to further prevent disappointments, do not be over sanguine about results; never set a flower

if the plant is not in first rate condition, and quite able to bear the stress of producing the big seed-pod, which will take the best part of a year to mature; for it kills weakly plants. Never cross inferior varieties, because the progeny, if reared, would probably be worthless. And cross only those varieties from which, for some reason or another, something good might be expected. Be very careful in labelling the flower directly it is crossed, and remove its own pollen clean away, so that there may be no mistake in the parentage.

When the seed is ripe the pod will split. Now immediately sow the seed on the surface of the compost, selecting plants which have lately been repotted—recently imported plants, that are making plenty of roots, in preference to others- but make sure that any plant on which seed is sown will require to be kept moist for at least two or three months afterwards. The seed germinates more surely on plants that are suspended near the light. Be careful that the seed is not washed away by the first few waterings the plant receives; afterwards there is less danger. If the seed is good it will soon commence to germinate, and become round shaped, about the size of the head of a pin. This is a critical juncture, for if the compost is not just so, those green globules will speedily disappear. Therefore if the surface of the compost appears not to be in a good sound condition, commencing, as it often does, to become sour and decomposed, it is better at this stage to at once transfer them to sweet material in tiny seed pots, placing five or six in each pot, a number of which should be placed in teak baskets, and suspended in a shady part of the house, and kept continually moist. The cause of the surface of the compost becoming prematurely decayed is often insects living within the pot. In some gardens the compost become literally alive with a small species of fly, and these quickly destroy Orchid seed. When once these tiny globular plants become established in their new pots—and most will do so—they quickly form a little leaf, and a little root grasps the compost. After this the rest is comparatively easy. They will soon require to be potted off singly in the seedling pots, and then growing on. Be always watchful, do not over-pot, and see that fresh sweet compost is supplied whenever necessary. The foregoing are the chief points to be kept in sight in order to ensure a reasonable amount of success in raising hybrids. There is yet a large field open to hybridists. Even supposing quite new crosses cannot at all times be made, there is still no reason why crosses already in existence, if good, should not again be reared. By doing so better varieties might be obtained, and, more than that, advanced as we are in Orchid culture, we have still much more to learn before we can say to ourselves, "These plants we possess, and we are absolutely sure of retaining them," for, like other garden plants, Orchids will sometimes die.

ORCHID PORTRAITS.

CATTLEYA INTERMEDIA (double).—*Rev. Hort.*, Sept. 1, p. 404, fig. 141.

CATTLEYA SKINNERI, Lindl. –*Rev. Hort. Belge*, Sept., p. 201, with plate.

DENDROBIUM HOOKERIANUM. –*Journ. of Hort.*, Sept. 3, p. 221, fig. 44.

DENDROBIUM LEONIS, Rchb. f.—*Bot. Mag.*, t. 7493.

LÆLIA CRISPA SUPERBA.—*Journ. of Hort.*, Aug. 27, p. 197, fig. 40.

HYBRIDS BETWEEN CYPRIPEDIUM AND SELENIPEDIUM.

MR. HANSON has written me respecting my crosses between the genera Selenipedium and Cypripedium for his Supplement, so, thinking it may be of some interest to your readers and lovers of these favourite flowers, I send you briefly a copy of what I said I had written in one of your issues, that I had plants up between S. Schlimii (seed parent) and C. Spicerianum (pollen parent). These are growing away well, and now have two or three pairs of leaves. Also the reverse cross was tried, but the seed pod of this latter was not ripe when plants of the former were up; and even when sown, did not grow. But I think I have established a "record time" in the following cross, made between S. × Dominianum as seed parent and C. Chamberlainianum as pollen parent. This was hybridised in December, 1895; the pod was ripe in March of this year; the seed was sown immediately, and now, in September, nine months after hybridising, I have strong young plants, some with leaves $4\frac{1}{2}$ inches long, and of a Selenipedium character. The reverse cross of this also did not germinate. Whether the cross between these two genera will ever be got to flower remains to be seen.

T. W. SWINBURNE.

Corndean Hall,
Winchcombe,
Cheltenham.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THERE was a good display of Orchids at the Royal Horticultural Society's Meeting at the Drill Hall, James Street, Westminster, on September 8th last, and three First-class Certificates were awarded. One of the most interesting features was an exhibit of two plants of Cattleya × Hardyana, artificially raised, the first which have reached the flowering stage, from the collection of Norman C. Cookson, Esq.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), received a Cultural Commendation for a good plant of the pretty little cerise-red Sophrocattleya × Veitchii, with a two-flowered inflorescence.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), staged four very interesting plants, including two of Cattleya × Hardyana, artificially raised by crossing Cattleya Dowiana aurea with the pollen of C. Warscewiczii thus settling the question of its parentage. The others were Lælio-cattleya × Bryan (C. Gaskelliana ♀ × L. crispa ♂), which received an Award of Merit, and L.-c. × Clive (C. Dowiana ♀ × L. præstans ♂), a First-class Certificate. Both are described on another page.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), received a First-class Certificate for Lælio-cattleya × Charles Darwin, the inflorescence bearing two flowers. It received an Award of Merit on August 25th, 1895.

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), sent a good plant of Odontoglossum Erstedii majus, with seven flowers, and an exceptionally large and very dark form of Miltonia spectabilis Moreliana, called Dulcote variety, to which a First-class Certificate was given.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), sent a pretty, light-coloured form of Cypripedium × Mabeliæ called Henry Ashworth, cut blooms of the handsome Dendrobium × Leeanum, a fine, richly-coloured form of Cattleya × Hardyana, two forms of C. Gaskelliana, a fine nine-flowered inflorescence of C. bicolor, and a plant of C. bicolor Lewisii, a distinct and pretty variety with green sepals and petals, and the lip purple in the lower half but white in front. An Award of Merit was given to the latter.

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr. Mr. Johnson), received an Award of Merit for a splendid eight-flowered inflorescence of Lælio-cattleya × elegans Oweniæ.

G. S. Ball, Esq., Ashford, Wilmslow, Cheshire (gr. Mr. Hey), sent Cypripedium insigne Ballianum, a fine greenish-yellow form, with the spots on the dorsal sepal nearly, though not quite obliterated.

Welbore S. Ellis, Esq., Hazelbourne, Dorking (gr. Mr. Burrell), showed the rare Oncidium panduratum, and a five-flowered inflorescence of Stanhopea oculata.

G. O. Sloper, Esq., Westrop House, Highworth, sent flowers of Cypripedium × polystigmaticum.

Messrs. James Veitch and Sons, Chelsea, staged a fine group, to which a Silver Flora Medal was awarded. It contained the handsome Lælio-cattleya × callistoglossa ignescens, L.-c. × Pallas, two plants of L.-c. × Nysa, L.-c. × Schilleriana, Cattleya bicolor, C. Leopoldi, C. Harrisoniana,

two well-flowered plants of Lælia monophylla, Odontoglossum Harryanum, O. bictoniense, Miltonia Rœzlii and its variety alba, Sobralia × Veitchii, two plants of Cycnoches chlorochilon, two plants of the pretty little Saccolabium Hendersonianum, Selenipedium × Phædra, S. × Brysa candidulum (S. × Sedeni candidulum ♀ × S. Boissierianum ♂), Cypripedium × œnanthum superbum, C. Curtisii, C. × Milo (C. insigne Chantini ♀ × C. œnanthum superbum ♂), C. tonsum superbum and C. × œnanthum superbum. An Award of Merit was given to Cattleya × Euphrasia, a handsome hybrid from C. Warscewiczii ♀ and C. superba ♂, which is described on another page.

Messrs. F. Sander and Co., St. Albans, staged another fine group, containing Cattleya granulosa, C. Harrisoniana, two well-flowered plants of Rodriguezia fragrans, a good plant of Zygopetalum Gautieri with eight spikes, Cœlogyne Micholitziana, a well-flowered Dendrobium bracteosum album, Epidendrum inversum, E. fragrans, a pan of the brilliant Habenaria militaris with six spikes, the interesting little Trichocentrum iridifolium, Miltonia spectabilis Moreliana, Cypripedium insigne, C. × Cahuzac, C. × Mabeliæ var. Lord Derby, and C. × Rothwellianum (C. Argus ♀ × C. Stonei ♂). An Award of Merit was given to Maxillaria striata grandiflora, a fine form of the species.

Messrs. B. S. Williams and Son, Upper Holloway, received a Silver Banksian Medal for an interesting group, containing the handsome Pescatorea Lehmanni, and P. Klabochorum, the latter with three flowers, Angræcum citratum, Pachystoma Thomsonianum with three-flowered spike, Oncidium dasytyle with branched raceme, Cochlioda vulcanica grandiflora with four spikes, Cypripedium tonsum, C. × œnanthum superbum, C. × Adonis, and C. Charlesworthii with five flowers. A First-class Certificate was given to Arachnanthe Lowii, with a raceme of thirty-six flowers and buds, the two basal flowers being orange-coloured and the next one intermediate between them and the red-blotched ones, of which the rest of the raceme is composed. The cause of difference between the flowers has hitherto remained a mystery, but it is said that the orange ones can alone be fertilised, a point which we should like to see confirmed.

CORRESPONDENCE, &c.

J. H., Whitby. Stanhopea Wardii.

J. B., Hessle. Pescatorea cerina. Two good forms of Masdevallia Chimæra, but No. 2. is hardly true Backhouseana, which is a large and very hairy variety with broad segments and comparatively short tails.

W. S. B., Dorking. Eria floribunda.

W. J. R., Lælio-cattleya × elegans, about typical.

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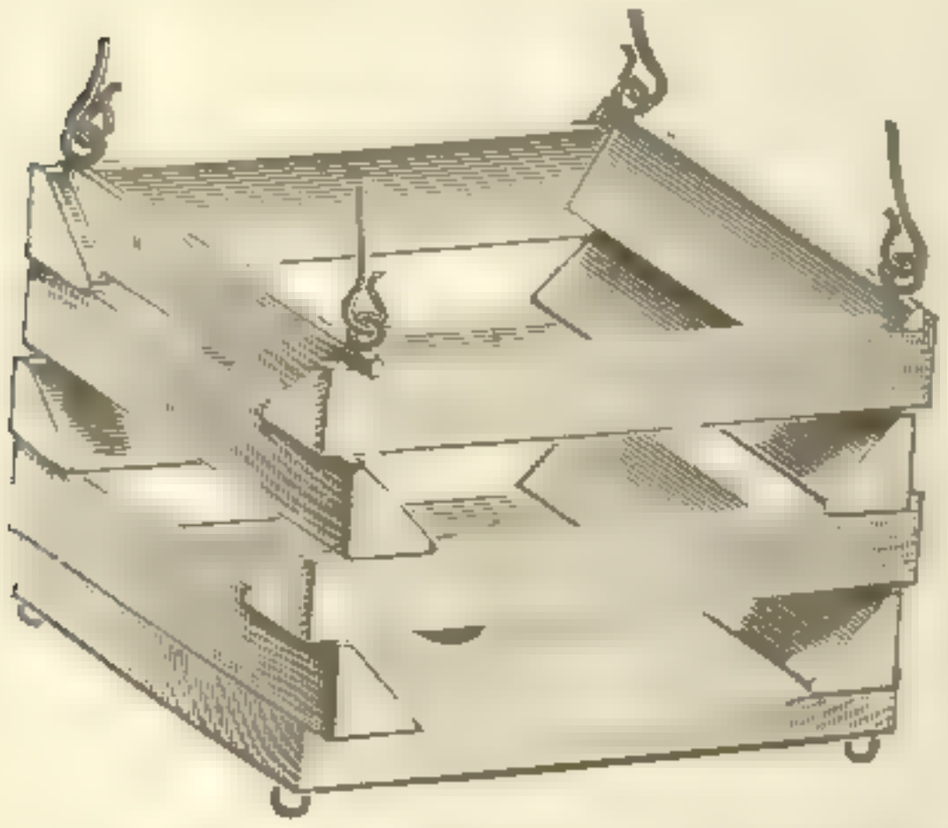

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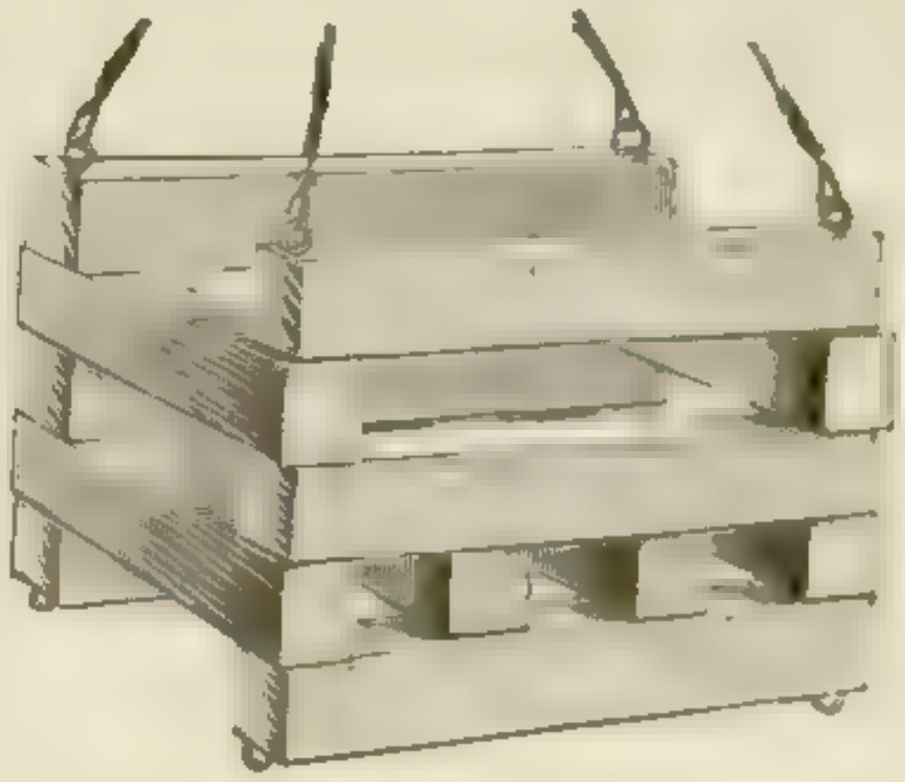

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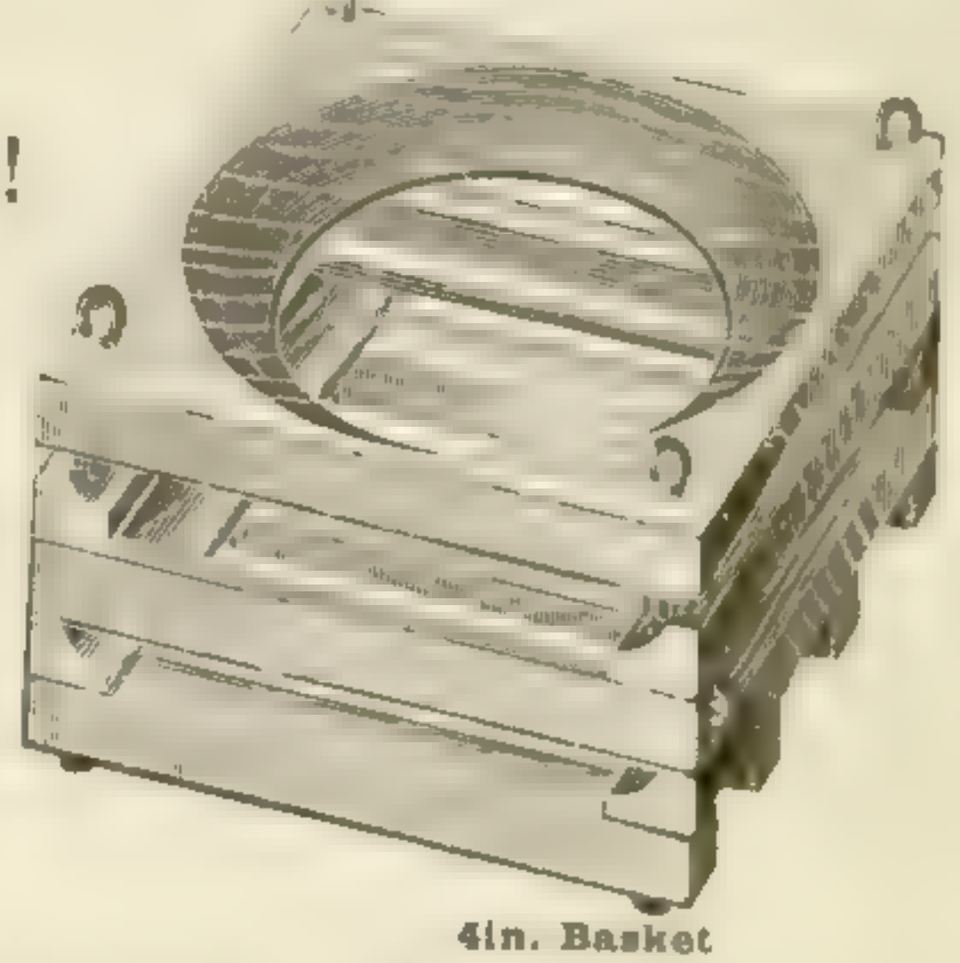

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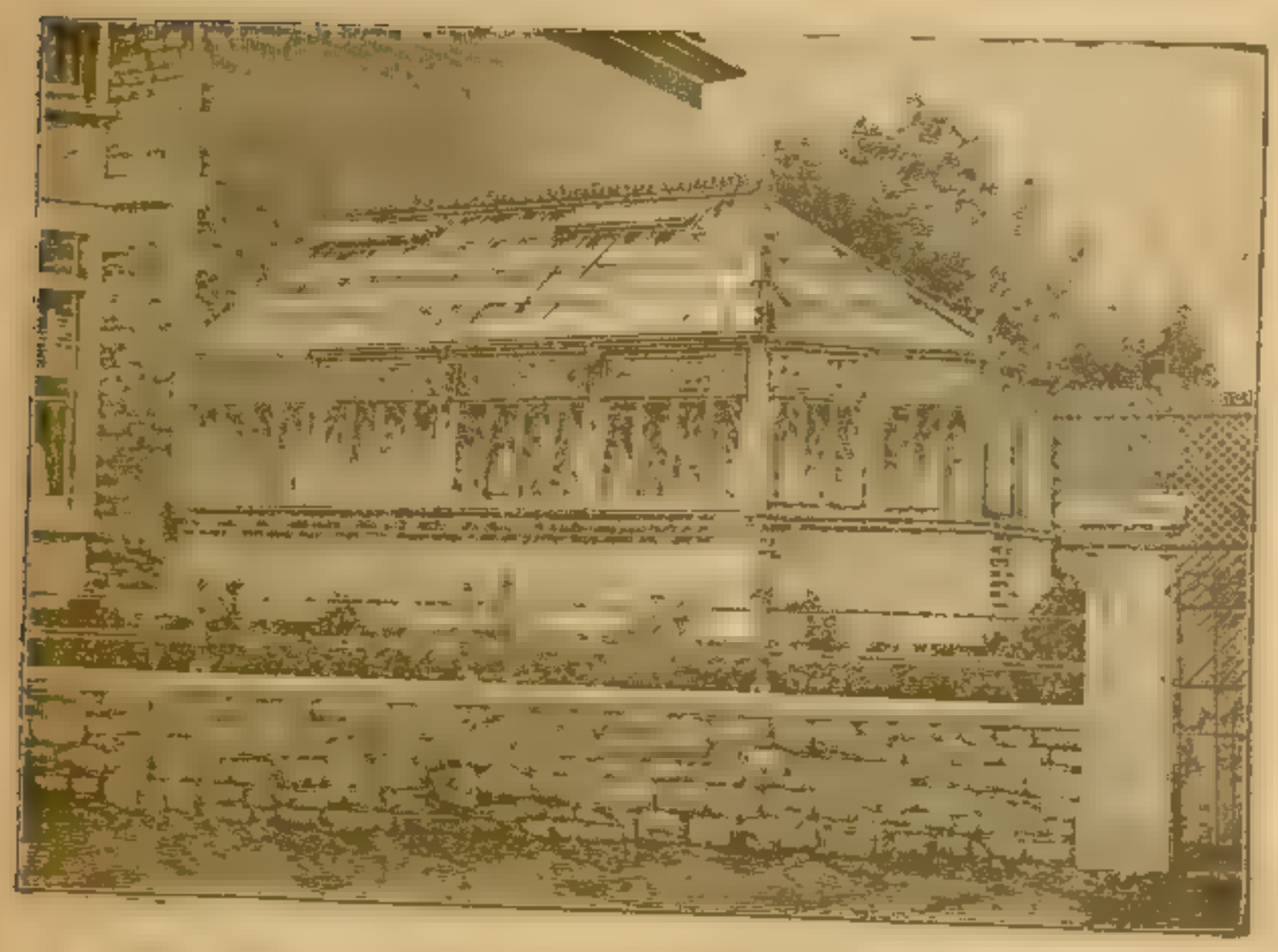

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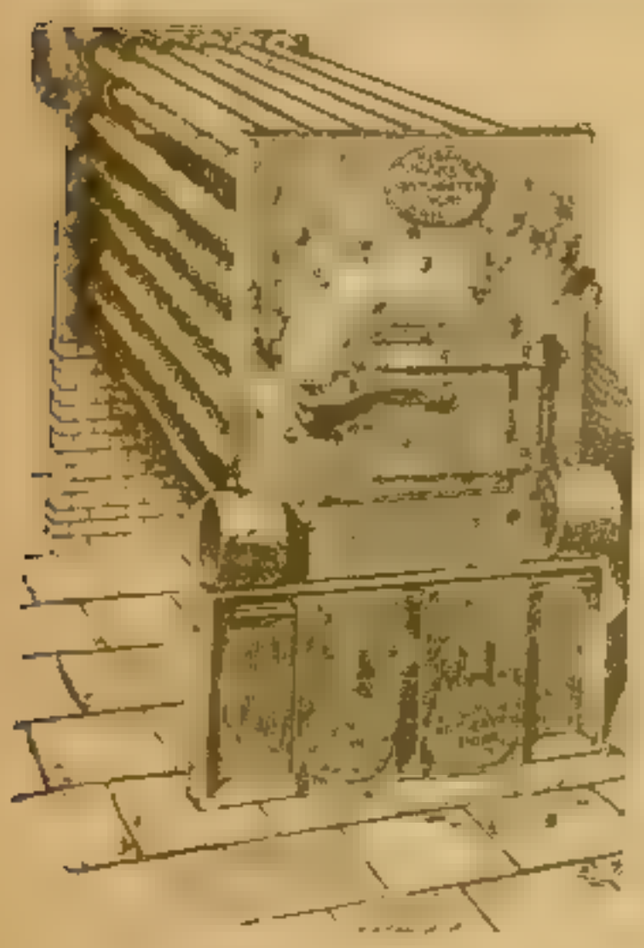

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THE ORCHID REVIEW.

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NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James' Street, Westminster, during November on the 10th and 24th respectively when the Orchid Committee will meet at the usual hour of 12 o'clock, noon.

We have received a copy of a work entitled *Flora Bosseriana*, being an enumeration of the plants cultivated in 1885 by M. Edmond Bosser, at Valleyres, and La Pierriere, Switzerland. It is a work of over 500 pages, ninety of which are devoted to Orchids. The collection is a thoroughly representative one, and contains 772 species belonging to 150 genera, both the showy and botanical species being well represented. M. Bosser, the author of the *Flora Orientalis*, died in 1885, since which time the collections have been maintained and enriched by his son-in-law, M. William Barbey, to whom we are indebted for the work, which has been compiled by M. Autran, the Conservator of the Bosser Herbarium, and M. Th. Durand.

A fine two-flowered scape of Cypripedium × exanthum superbum has been sent from the collection of Reginald Young, Esq., Sefton Park, Liverpool, the flowers being very large and richly coloured, and attending evidence of good culture.

Flowers of Lælia Dayana, and three forms of L. pumila, also come from the same collection, one inflorescence of the latter bearing two flowers, a somewhat unusual occurrence. As has already been pointed out, the latter species is rather variable.

A very remarkable flower of Miltonia spectabilis has been sent from the collection of Colonel Marwood, of Whitby, by Mr. Hornet, in which both

the petals and lip are reduced in size, and terminate each in a long narrow filament or tail, somewhat as in the sepals of Masdevallia. The petals are of the usual breadth in the basal third, beyond which they abruptly terminate, except the tails. In the lip, however, the tail-like filament is pendulous under the lip, and only united to it up to the middle, this organ being less than half the usual size. As the column and other parts of the flower are normal, it is difficult to account for the peculiarity, and it will be interesting to note if it appears again next year.

A curious flower of Odontoglossum odoratum comes from the collection of Mrs. Holland, Wonham, Bampton, Devon, with seven sepals and petals, two lips, and two columns fused together side by side. The ovary is also somewhat flattened, and the example apparently consists of two flowers fused into one.

An inflorescence of a richly-coloured form of Odontoglossum × Ruckerianum has been sent from the collection of W. J. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens. The sepals are suffused with light rose, and bear two or three large irregular deep red-brown blotches, while the petals are nearly white, with several small spots. The lip also bears one large blotch in front and a small spot on either side of the crest. It is a very pretty form.

The handsome Miltonia Schrœderiana is also sent from the same collection, its brightly-coloured crimson and yellow lip being very effective. It is a native of Costa Rica, and still seems to be rare in cultivation.

Another very pretty Orchid from the same collection is Oncidium onustum, an inflorescence of a dozen of its bright yellow flowers being very effective. It seems to be an easily cultivated species, and flowers regularly in the autumn. Its history was given at page 329 of our last volume.

An inflorescence of the handsome hybrid Cattleya × Brymeriana has been sent from the collection of T. Statter, Esq., Stand Hall, Whitefield, Manchester, by Mr. Johnson. The sepals and petals most resemble those of C. superba, but the lip is more open, rather obscurely three-lobed, and the throat light yellow in front, and nearly white at the sides, in which respect it approaches C. Eldorado, the other parent. A fine flower of Cattleya × Ashtoniana is also sent, in which the characters of C. Harrisoniana and C. Warscewicziana are combined, those of the former being the most obvious.

A fine flower of Cattleya Gaskelliana has been sent from the collection of F. M. Burton, Esq., Highfield, Gainsborough, together with a small

light form of the same, which has probably not reached its full development. They are rather late for this Cattleya. A good flower of the beautiful Cypripedium insigne Chantini is also sent.

In reference to our note at page 260 respecting the inclusion in the *Flora Brasiliensis* of Orchids not yet known within the limits of that country, M. Cogniaux writes that on completion of the work a statistical table will be given, showing the number of genera and species of each group actually known to be Brazilian, an arrangement we view with satisfaction, for reasons already pointed out.

A flower of the beautiful white Sobralia macrantha Kienastiana has been sent from the collection of W. P. Burkinshaw, Esq., of Hessle, by Mr. Baker, from a newly-imported plant. This variety occasionally appears among importations of S. macrantha, but is comparatively rare. It is also known as S. macrantha alba, a more suitable but later name.

CATTLEYA × HARDYANA COUNTESS OF DERBY.

THE two-flowered inflorescence of this magnificent Cattleya has been sent from the collection of T. Statter, Esq., Stand Hall, Whitefield, Manchester. Its characters have been recorded in these pages on more than one occasion, and it suffices now to remark that the contrast between the pure white sepals and petals and the intense dark velvety crimson lip and the pair of yellow blotches on the side lobes, is more striking and effective than in any Cattleya we know, while the form of the flower is equally good, and it richly deserved the Silver Flora Medal which was awarded to it on October 13th last by the Royal Horticultural Society. Why it is that the plant is persistently called a variety of C. Warscewiczii in the reports is a mystery. No one can compare it carefully with this species and with C. Dowiana without seeing that the sepals and petals have the characteristic shape and arrangement of the latter, more so than some other forms of C. × Hardyana, while there are distinct traces of the veining of C. Dowiana in the basal half of the lip, as well as of the deep colour in the front. It is certainly a natural hybrid between C. Dowiana and C. Warscewiczii, and the resemblance to the latter—as, indeed, of other forms of C. × Hardyana—is simply that which is usually seen between a hybrid and its parents. All hybrids between these two species must stand as forms of C. × Hardyana, and it is quite time the present magnificent variety was called by its proper name.

NOTICE OF BOOK.

Dictionnaire Iconographique des Orchidées. Direction et redaction par A. Cogniaux: Dessins et Aquarelles par A. Goosens. Brussels, A. Goosens.

We have received the first number of the above work, whose object, briefly stated, is to take cognisance of interesting Orchids, and to facilitate their determination and the verification of the names of those which amateurs possess in their collections. The first part contains Cattleya × Brymeriana, Lælia purpurata, Miltonia vexillaria and varieties superba and radiata, M. spectabilis and varieties bicolor and Moreliana, Odontoglossum crispum and varieties Bousiesianum, Madame Madoux and stellatum. The plates represent a single flower, and each plate is wrapped in a sheet or more of text, containing a short description and history of the species, in French, and sometimes wood-cuts of the whole plant, each sheet being loose, so that they can be kept in alphabetical order as later parts appear. The size of the work is about 5½ inches deep by 7¼ wide, the shape not being the one best adapted to the library shelves, and, unfortunately, the Lælia plate is folded across the middle. The plates are faithful representations of the plants intended, and this is a point which is emphasised in the prospectus, where it is remarked that too often in analogous publications, edited by horticultural establishments, the plates are highly fantastical, or the beauty or dimensions of the flowers are exaggerated without measure in the interest of the sale—a remark not altogether without justification, though we are glad to think that it does not apply generally. It was intended to commence with the genus Odontoglossum, but owing to certain difficulties this part has been deferred for a short time. We cordially wish the new venture success.

CYPRIPEDIUM × REGALE.

A flower of the above has been sent from the collection of Reginald Young, Esq., Sefton Park, Liverpool, together with one of C. purpuratum, one of its reputed parents. It was raised by the late Mr. J. C. Bowring, of Windsor, and is said to have been a seedling from C. insigne Maulei crossed with the pollen of C. purpuratum. It was sent out by Mr. Bull, and we have found a brief record of it in 1889, though when it was raised and when it flowered for the first time we have not succeeded in tracing. The flower most resembles C. insigne, particularly in shape, though the dorsal sepal is nearly orbicular, the petals broader, and the staminode almost exactly intermediate in character. In colour the influence of the pollen parent is more apparent, for the petals are distinctly suffused with light purple, and at the extreme base occur a few traces of purple spots, while the dorsal

sepal is suffused with a similar colour, except round the broad white margin, and the numerous nerves are all of a deeper purple shade. The lip, too, is darker in colour. There is only a slight trace of the reflexed character of the dorsal sepal of C. purpuratum, and, indeed, much of the character of this parent is so much blended into that of C. insigne as to be almost lost. The features of C. purpuratum may be more apparent in the leaf, which we have not seen. It is a bright and very pretty hybrid: but one might be excused for not guessing that C. purpuratum was one of the parents. Of course we are assuming that this is one of the original stock, and that the parentage has been correctly given.

THE HYBRIDIST.

LÆLIO-CATTLEYA × VELUTINO-ELEGANS.

A PRETTY hybrid derived from Cattleya velutina and Lælio-cattleya × elegans ♂, raised by M. Chas. Maron, Orchid grower to M. Fournier, of Marseilles, and which recently received a First-class Certificate at Paris. At present it most resembles the mother plant, though rather stouter in habit. The flowers are fragrant, and are produced several together in an erect raceme, the sepals being creamy-white tinged with rankeen yellow and veined with rose, and the lip blush white at the base, with the front lobe rich crimson-purple, veined with white, and having an orange blotch at the base.—O'Brien in *Gard. Chron.*, Sept. 26th, p. 369.

LÆLIO-CATTLEYA × BELAIRENSIS.

A very interesting hybrid, raised in the collection of M. G. Mantin, Château de Bel Air, Olivet, France, from Cattleya Bowringiana ♀ and Lælia autumnalis ♂. The inflorescence and flowers closely resemble those of the Lælia in almost every particular, but the pollen is that of Lælio-cattleya, four of the pollinia being very small. There is also some indication of the Cattleya parent in the habit. It was exhibited at the Royal Horticultural Society's meeting on October 27th last.

CYPRIPEDIUM × HARRISIANUM VIRESCENS.

ON page 300 of the October number of the *Orchid Review* there is a note with reference to the sportive nature of this Cypripedium hybrid, and a request to know the behaviour of the plant in Mr. Measures' collection. I may say that it bloomed again shortly after it came here, the flower being simply an ordinary form of C. × Harrisianum. But the flower was produced on a different part of the plant. I at once took steps to inform Mr. Little of the facts, and have waited to learn the result of his plant flowering. The plant here has now developed a second flower, from the growth next to

the one which produced the green flower originally described in your pages. It is just what one might term a poor form of C. × Harrisianum, being neither one thing nor the other—that is to say, it is neither an ordinary form of Harrisianum, nor yet the variety virescens as described. With reference to the plant being potted in loam, there is a little mistake. When I divided the plant I found that it had a mixture of a little loam, but the greater portion of the potting material consisted of peat and sand, the whole being in a decayed condition, though the plant was perfectly healthy. I am afraid that evidence of this kind will not quite bear out the statement of the expert reported at page 267 of the September number, that no variety of Orchid would alter its character into another.

H. J. CHAPMAN.

Cambridge Lodge,
Camberwell.

A HYBRIDIST'S NOTES.

FURTHER observations on the time of ripening seed-pods have convinced me that there is no fixed rule as to the influence of foreign pollen in this matter, but that certain species have a prepotency in influencing the time of ripening which other species do not possess. For example, Lælia anceps pollen seems invariably to cut down the time needed to ripen pods of the Cattleya labiata group by about six months, while pollen of the latter species does not appreciably lengthen the time needed by an anceps pods to ripen. On the other hand, Broughtonia sanguinea, which, both with its own and with foreign pollen, ripens its seeds in $1\frac{1}{2}$ to 2 months, has no power to quicken the ripening of C. Bowringiana, with which it gave good seed in $8\frac{1}{2}$ months. Probably certain species have power to impress this, as well as other peculiar characteristics, upon their hybrid offspring, just as the Cattleyas of the guttata group always transmit the three-lobed lip to their hybrids with species having an entire lip.

This summer a pod of C. Trianæ × labiata ripened, which was remarkable in two ways—the pollen was 35 days old before it was used, and the pod ripened in $7\frac{1}{4}$ months. Only a few seeds were plump, but one of them grew fast, and is now pushing a leaf.

Cattleya Dowiana seems to have the most perishable pollen of any Cattleya experimented with, as I get no pods from it if over a week or ten days from the flower. Nor have I been able to get pods with C. Rex pollen of the same age. Very hot and damp weather seems to shorten the life of all sorts of Orchid pollen very materially, though no change is visible to the eye.

THEODORE L. MEAD.

Oviedo, Florida.

THE CYPRIPEDIUM GROUP.

SEVERAL years ago I commenced a study of the Orchideæ, with a view of ascertaining the relationship of the different groups to each other, and naturally commenced with the primitive group Apostasieæ, a paper entitled "A Morphological and Systematic Review of the Apostasieæ," being published in the *Journal of the Linnean Society* (Vol. XXV., pp. 211-243, t. 48), in which the structure, affinities, and geographical distribution of the group was fully discussed. Subsequently, two species of the remarkable genus Neuwiedia came into cultivation, and flowered at Kew, and an account of its structural peculiarities was given in these pages two years ago (*supra*, II., p. 70). The Cypripedium group follows next in natural sequence, and as it occupies such an important position in gardens, an outline of the species, and their natural arrangement, cannot fail to be interesting. And in order to make the account of the sub-order, Diandræ, complete, a brief account of the Apostasieæ may also be included.

As regards the arrangement adopted, a few words must be said. Darwin has very well pointed out that a system of classification, in order to be natural, must be strictly genealogical, as the characters which indicate true affinity between any two or more species are those which have been inherited from a common parent. But as there is no written pedigree we can only trace community of descent by a comparison of structural agreements and differences, carefully distinguishing between those characters which indicate consanguinity, or real affinity, and those which are merely adaptations for some special physiological effect, which latter are only analogical resemblances, sometimes between members of quite distinct groups. A difficulty presents itself here as to what are ancestral and what adaptive characters, but it is evident that the two are essentially distinct.

Ancestral characters are those which have been the least modified in relation to the conditions of life to which organisms have been recently exposed, and consequently they may be recognised as those extending with the greatest amount of uniformity throughout a group, and subject to the least amount of variability. Moreover, they are invariably most apparent in embryonic structures, becoming most masked or obscured in those stages where the greatest amount of specialisation is devolved. And from this the importance of rudimentary organs in a natural scheme of classification will be apparent.

Adaptive characters are those by which an organism keeps itself in harmony with changing conditions of existence, and these may produce similarities of structure in organisms far apart by ties of consanguinity, as, for example, in the pollinary apparatus of Orchids and Asclepiads, which are adaptations for fertilisation by insects. Adaptive characters may in time

become ancestral ones if sufficiently beneficial to give rise to a dominant group of organisms, the acquired characters being then handed down to all the descendants in common. But when a group becomes dominant, and widely diffused, some of its members again come under new conditions of environment, still newer adaptations arise as the group diverges, and the original adaptive character having served its purpose, may now only persist in a modified or rudimentary form throughout the new group. From these remarks the significance of the two sets of characters will be apparent.

In the following sketch I have aimed at a natural arrangement, as far as the broad features are concerned, but it is quite possible that future discoveries may render modification necessary in some details.

Suborder I. Diandræ.

This suborder is characterised by the presence of either two or three perfect stamens situated on one side of the flower, and by the pollen grains being invariably simple. The stamens represent the lateral pair of the inner staminal whorl, and the median one of the outer whorl. It contains about a hundred known species, now arranged in seven genera. It is sparingly diffused through the northern hemisphere, the tropics of America and Asia, and along the Malay Archipelago to tropical Australia, but has not been detected in any part of Africa.

Tribe I. Apostasieæ.

Perianth regular, or nearly so, with subequal segments; column very short, filaments slender, anthers more or less elongated, pollen dry; style slender with minute stigma. The tribe contains three genera and over a dozen species, and ranges from Continental India and Ceylon through the Malay Archipelago to tropical Australia.

Key to the Genera.

Three stamens all perfect, linear or oblong; flowers in dense erect spikes
1. Neuwiedia, Blume.

Dorsal stamen imperfect or absent; flowers in pendulous simple or branched spikes.

Dorsal stamen modified into a linear staminode, partly adnate to the style; anthers with oblique base 2. Apostasia, Blume.

Dorsal stamen entirely suppressed; anthers with equal base
3. Adactylus, Rolfe.

I. Neuwiedia.

The most ancestral of existing Orchids, and of remarkably simple structure, as the linear versatile anthers with slender filaments, and the distinct style, are very different from those of most Orchids, though it agrees in every other respect. It ranges from Malacca and Penang to New Guinea, six species being known.

Key to the Species.

Segments 6—8 lin. long, yellow.
Anthers linear-oblong.
Ovary and sepals puberulous or subglabrous.
Ovary and sepals puberulous.
Bracts narrowly lanceolate, 1½-2¼ lin. broad
1. N. Lindleyi, Rolfe.
Bracts lanceolate-linear, 1-1½ lin. broad
2. N. calanthoides, Ridl.
Ovary and sepals subglabrous 3. N. Zollingeri, Rchb. f.
Ovary and sepals pubescent . . 4. N. Curtisii, Rolfe.
Anthers broadly oblong . . . . 5. N. veratrifolia, Blume.
Segments 3 lin. long, white . . . . 6. N. Griffithii, Rchb. f.

II. Apostasia.

A small genus of five species, ranging from Continental India and Ceylon, through the Malay Archipelago, to tropical Australia. The median stamen of Neuwiedia is here reduced to a narrow staminode, and the anthers are oblong and versatile, with oblique base.

Key to the Species.

Leaves lanceolate. . . . . 1. A. odorata, Blume.
Leaves elongate-linear.
Leaves 3-8 lin. broad . . . . 2. A. Wallichii, R. Br.
Leaves 1½-2½ lin. broad.
Australian species . . . . 3. A. stylidioides, Rchb. f.
Bornean species.
Panicle lax, ovary 5-7 lin. long. 4. A. gracilis, Rolfe.
Panicle congested, ovary 4 lin. long . . . . . 5. A. alba, Rolfe.

III. Adactylus.

A genus of three species, ranging from Continental India and Ceylon, along the Malay Archipelago as far as Borneo. The third stamen is here entirely suppressed, and the anthers are basifixed, with equal subcordate base, and sometimes partially cohere by their margins.

Key to the Species.

Leaves elongate-linear.
Leaves 3-5 lin. broad . . . . . 1. A. nudus, Rolfe.
Leaves 4-7 lin. broad . . . . . 2. A. Lobbii, Rolfe.
Leaves broadly lanceolate . . . . . 3. A. latifolius, Rolfe.

Tribe II. Cypripedieæ.

Perianth irregular, with very unequal segments, the median petal developed into a large saccate lip; column well developed, anthers subsessile, globose, pollen grains viscid, dorsal stamen modified into a

generally more or less shield-shaped staminode; stigma subsessile, shield-shaped. The tribe contains about 86 known species, and is widely diffused through the northern hemisphere, and part of tropical America and Asia, in the latter ranging along the Malay Archipelago to the Philippines and New Guinea. The species have been variously arranged in from one to three genera, but from the following it will be seen that they can be arranged in four natural groups, whose claim to generic rank now seems to be well made out.

Key to the Genera.

Ovary 3-celled with axile placentas; sepals valvate.

Leaves plicate; perianth persistent; seeds subglobose

4. SELENIPEDIUM, Rchb. f.

Leaves conduplicate; perianth deciduous; seeds fusiform

5. PHRAGMIPEDIUM, Rolfe.

Ovary 1-celled with parietal placentas; seeds fusiform.

Leaves plicate; perianth persistent; sepals valvate

6. CYPRIPEDIUM, L.

Leaves conduplicate; perianth deciduous; sepals imbricate

7. PAPHIOPEDIUM, Pfitz.

The history of this group is somewhat curious. For a long period all the known species were referred to Cypripedium, but in 1846 Lindley described the curious Uropedium Lindeni as a new genus of Cypripediæ, differing in its long tailed lip. In 1854 Reichenbach pointed out that it had also the three-celled ovary of the Apostasieæ, as had also the Tropical American species of Cypripedium, which latter he separated under the name of Selenipedium, recognising two sections, one with tall leafy stems and plicate leaves, the other stemless, and with coriaceous leaves. It has subsequently been proved that Uropedium is simply an abnormal state of Selenipedium caudatum, and the former has been suppressed, it being impossible to retain a name which would have been perpetually erroneous, the lip of the normal forms not being tailed. In 1882 Dr. Pfitzer removed the species of Selenipedium with coriaceous leaves, and united them with the Old World Cypripediums of similar habit, under the name of Paphiopedilum (*Morph. Stud. Orchideenbl.*, p. 11), the characters relied upon being the conduplicate leaves and deciduous perianth. This arrangement has given rise to some discussion, which it is not necessary to repeat here, though a few remaks must be made as to the validity of the above arrangement.

It is quite evident that here are four perfectly natural groups with well-defined characters. Selenipedium is neatly cut off from the other three by its globose crustaceous seeds, as in Apostasieæ, and Paphiopedium (in the restricted sense here employed) by the imbricate sepals. Dr. Pfitzer has

pointed out the importance of the valvate or imbricate sepals in separating certain groups of Orchids, and recently called my attention to its probable extension to this particular group, which led me to examine a series of buds, with the result above mentioned. This gives an additional character for separating the American species with a three-celled ovary, which I have contended were not naturally united with the Old World species with unilocular ovary. Lindley, in 1842, remarked: "There is something in the habit of the Indian Lady's slippers so peculiar that it was for a long time thought that they would be found to possess characters to separate them from their associates" (*Bot. Reg.*, XXVIII., sub. t. 17), and it is unfortunate that the character was not discovered sooner, when the change of name would have caused less inconvenience. The character is very marked, for in every species which I have been able to examine in the proper condition the dorsal sepal is invariably folded within the lateral pair, and the bud is laterally compressed, while in the other three genera the bud is globose. It is rather curious that the first three genera should agree in having valvate sepals, and the last three in having fusiform non-crustaceous seeds.

4. Selenipedium.

A genus of three species found in Guiana, Brazil, and Central America. They are tall, reed-like plants, with a terminal raceme of small flowers, and the seeds globose, as in Apostasieæ, or in Vanilla. The first two species have fragrant fruits, and are used in the same way as Vanilla for flavouring purposes. The species have retained the general habit of Apostasiæ, as well as the three-celled ovary and crustaceous globose seeds, in which respect they differ from all the rest of the Cypripedieæ. The remainder of the species referred here by Reichenbach are transferred to the following genus.

Key to the Species.

Leaves narrowly lanceolate . . . . . 1. S. Chica, Rchb. f.

Leaves broadly lanceolate.

Inflorescence pubescent, staminode lanceolate
2. S. Isabelianum, Rodr.

Inflorescence pilose, staminode trulliform-ovate
3. S. palmifolium, Rchb. f.

5. Phragmipedium.

This genus comprises Selenipedium section Acaulia[1] corrifolia of Reichenbach, and Paphiopedilum section Phragmopedilum of Pfitzer, about ten species being known. It has the ovary of Selenipedium, but differs in habit, the conduplicate coriaceous strap-shaped leaves, the flower articulated above the ovary and deciduous, and the fusiform seeds. From Paphiopedium it differs in the three-celled ovary and valvate sepals. The

genus is exclusively tropical American, ranging along the Andes from Guatemala to Peru, with outlying species in Brazil and Guiana.

Key to the Species.

Petals elliptical or linear-oblong, obtuse.
  Petals elliptical . . . . . 1. P. Schlimii, Rolfe.
  Petals linear-oblong.
    Petals drooping, twisted: side lobes of lip without a pair of white tubercles 2. P. Lindleyanum, Rolfe.
    Petals more horizontal, less twisted: side lobes of lip bearing a pair of white tubercles 3. P. Sargentianum, Rolfe.
Petals tapering to a narrower apex.
  Petals under six inches long.
    Leaves an inch or more broad.
      Margins of petals nearly flat.
        Staminode cordate, acute . 4. P. vittatum, Rolfe.
        Staminode transversely oblong, obtuse 5. P. longifolium, Rolfe.
      Margins of petals crisped-undulate.
        Lower sepal a quarter to a third exceeding the lip 6. P. Boissierianum, Rolfe.
        Lower sepal nearly twice as long as lip 7. P. Czerwiakowianum, Rolfe.
    Leaves about ½ inch broad.
      Leaves with attenuate acute apex: ovary nearly glabrous 8. P. caricinum, Rolfe.
      Leaves very little narrowed at apex: ovary pubescent 9. P. Klotzschianum, Rolfe.
  Petals a foot or more long . . . 10. P. caudatum, Rolfe.

6. CYPRIPEDIUM.

This genus comprises all the Cypripediums with plicate leaves, and a persistent perianth, with valvate sepals. It differs from Selenipedium in the one-celled ovary with parietal placentas, and the fusiform not crustaceous seeds. It is widely diffused in Europe, temperate Asia, and North America, about 30 species being known.

Key to the Species.

Lip saccate-globose.
  Flowers from the axil of a bract.
    Nerves of leaves converging at the apex.
      Leaves three or more.
        Lateral sepals free 1. C. arietinum, R. Br.
        Lateral sepals united.

Dorsal sepal ovate-lanceolate: petals narrow and longer than lip.
Leaves elliptical or ovate-oblong, 1—3 in. broad.
Staminode trulliform-ovate, flat.
Lip laterally subcompressed, 1½—1¾ in. long
2. C. pubescens, Willd.
Lip dorsally subcompressed, ¾—1 in. long
3. C. parviflorum, Salisb.
Staminode oblong, concave or conduplicate.
Sepals and petals deep purple-brown.
Lip yellow (European) 4. C. Calceolus, L.
Lip white (N. American) 5. C. montanum, Dougl.
Sepals and petals green or yellow.
Flowers solitary
Lip 7—10 in. long . 6. C. candidum, Muhl.
Lip 1—1¼ in. long . 7. C. cordigerum, D. Don.
Flowers two or more . 8. C. Henryi, Rolfe.
Leaves lanceolate, ¾—1¼ in. broad
9. C. yunnanense, Franch.
Dorsal sepal broadly ovate or elliptical; petals usually broad and not much longer than the lip.
Sepals and petals purple or striped.
Staminode yellow . 10. C. fasciolatum, Franch.
Staminode purple.
Lip about 1½—2 in. long.
Flowers almost uniform rose-purple
11. C. macranthum, Swartz.
Flowers veined with blackish purple on a light ground . . 12. C. tibeticum, King.
Lip 1—1¼ in. long . 13. C. himalaicum, Rolfe.
Sepals and petals white or yellow.
Sepals and petals white 14. C. Reginæ, Walt.
Sepals and petals yellow.
Flowers solitary.
Lip over an inch long
15. C. luteum, Franch.
Lip under ¾-inch long
16. C. passerinum, Richards.
Flowers two or more on a raceme.
Lip 2 inches long . 17. C. Irapeanum, Llave & Lex.
Lip ¾-inch long . 18. C. californicum, A. Gray.

Leaves two, alternate or subopposite.
Leaves elliptical or ovate-oblong, alternate.
Lip ¾—1 in. long . . . 19. C. guttatum, Swartz.
Lip 1¼—2 in. long . . . 20. C. acaule, Ait.
Leaves ovate or elliptical ovate, subopposite.
Flowers in racemes . . 21. C. fasciculatum, Kell.
Flowers solitary.
Leaves ovate, stem villose . 22. C. elegans, Rchb. f.
Leaves subcordate, stem glabrous . . . 23. C. debile, Rchb. f.
Nerves of leaves radiating to margin . 24. C. japonicum, Thumb.
Flowers ebracteate.
Flowers an inch long . . . . 25. C. ebracteatum, Rolfe.
Flowers about ½-inch long . . . 26. C. micranthum, Franch.
Lip trigonous and boat-shaped.
Leaves elliptical-oblong, 3—5 in. long . 27. C. margaritaceum, Franch.
Leaves suborbicular, over 6 in. long . 28. C. Fargesii, Franch.

R. A. ROLFE.

(To be continued.)

QUICK HYBRIDISATION OF ORCHIDS.

GLANCING over my notes on Orchid culture, I have come across an instance of quick culture which tends to remove the impression that Orchid seed production is always a protracted process. On March 28th, 1896, I applied the pollen of Phaius grandifolius to the stigma of Bletia catenulata. A pod formed, which ripened and burst on May 10th. The seeds were planted the same day, and on June 4th we had a batch of seedlings up, some of which are now nice little plants with several leaves. Microscopical examination showed three per cent. of the seeds to contain embryos. It will be observed that the seeds mentioned above only took twenty-five days to germinate, and the whole period from the application of the pollen to the germination of the seed was only nine weeks and five days.

ALEX. HODGKINSON.

The Grange,
Wilmslow.

[The production of seedlings in so short a period is very remarkable, and possibly establishes a record, though we are not sure if previous examples have been recorded in quite the same way. We shall hope to hear of the progress of these interesting seedlings, as it will be remembered that the first plant of Disa × kewensis flowered when only eighteen months old.—ED.]

ODONTOGLOSSUM HUNNEWELLIANUM.

THIS pretty little Odontoglossum is now flowering well in the collection of W. J. Thompson, Esq., Walton Grange, Stone, Staffordshire, and furnishes the opportunity to say that it was probably in this collection that it first flowered in Europe, in May, 1880. Mr. Stevens then sent it to Kew, stating that it had been purchased as Odontoglossum species at Protheroe and Morris's Rooms in the previous December, and that the old flower spikes showed fourteen to sixteen flowers. It was not identified, and was laid aside as possibly a natural hybrid. A few weeks later it also flowered with the importers, Messrs. F. Sander and Co., and was described as Odontoglossum Hunnewellianum (Rolfe in *Gard. Chron.*, 1880, vi., p. 671, the earlier specimen being then overlooked. Soon afterwards it flowered in numerous collections, and it appears that it was introduced in quantity. It is said to grow at a very high altitude, near Bogota, in New Granada, and was discovered by Mr. Oscar Bobisch. It bears a good deal of resemblance to a small light-coloured form of O. sceptrum, but is markedly different in having entire column wings, in which respect it is comparable with O. Pescatorei, and thus is very distinct from every other species.

R. A. R.

PERISTERIA ELATA.

A FINE specimen of this plant (the Dove Orchid) is at present to be seen in bloom at Sparken, Worksop, the residence of J. D. Ellis, Esq. It is growing in a 20-inch pot, and has sixteen bulbs and five flower spikes. Some of the largest bulbs measure 14 inches in circumference and 7 inches in depth, the tallest spike being 5 feet 3 inches in height, and has upwards of forty blooms or flower buds on it. There are a total of 170 expanded flowers or buds on the five spikes. This is one of the most robust and healthy specimens of this well-known Orchid I have seen. It is growing in a light span-roofed house, and is only slightly shaded from the bright sun. On inquiring of Mr. Alderman, the gardener, the treatment he gave it, I found it was somewhat different to what is usually recommended. Peat, sphagnum, charcoal, and sand are the ingredients used in the compost. It is potted annually in February, before growth has commenced, all the old soil is removed and replaced with new. It is found that this variety has active root action before any growth appears; a copious supply of water is given during its growing season, and the plant is kept quite dry when at rest. It is an old-fashioned plant, but the flowers are much appreciated at bazaars, where flowers from this plant have been lately sold for 2s. 6d. each. —S. in *Journ. of Hort.*, Oct. 15th, p. 377.

ORCHIDS IN THE LAW COURTS.

THE case of Rappart *versus* the Owen trustees was reported at page 267 of our September issue. A second trial was granted to the defendants, who on the former occasion allowed judgment to go by default. The case was heard at the City of London Court on October 26th, and occupied about three hours. Both parties were represented by counsel. For the plaintiff appeared as witnesses Mr. James O'Brien, Secretary of the R.H.S. Orchid Committee, Mr. James McNab, from Messrs. F. Sander and Co., and Mr. Baguley, of Messrs. Charlesworth and Co. It will be remembered that the claim was for three plants purchased at the sale of the Selwood collection in August, 1895, as Cattleya Skinneri alba, Odontoglossum × elegans, and Dendrobium × splendidissimum grandiflorum, which on flowering proved untrue to name. After the plaintiff had stated his case, Mr. Baguley gave evidence that he had been for over fifteen years in the Orchid trade, that he knew varieties of Orchids well. In April last he called on the plaintiff, when the so-called Odontoglossum × elegans was in flower, and when questioned as to whether it was true to name he could say without the slightest hesitation that it was not O. × elegans, but an ordinary variety of O. Hallii, worth about 2s. 6d. He was sure that he had not made a mistake. Mr. McNab, the next witness, stated that he called in May on Mr. Rappart, and saw the so-called Cattleya Skinneri alba in flower. It was not an albino at all. The lip was purple, and the sepals and petals light rose. In his opinion an albino never changed colour. Mr. J. O'Brien gave evidence that true albinos always came true every time when flowering, and that only those that in the first instance were not true, and which ought never to have had the title of alba given to them, came with a little colour. The defendant's case then commenced. Mr. Watts, the late Mr. Owen's gardener, on being called, was understood to say that according to his recollection the Odontoglossum × elegans and Cattleya Skinneri alba had never flowered while in their collection, but had been purchased in flower; but the Dendrobium × splendidissimum grandiflorum had flowered, and was true to name. Mr. W. H. Protheroe, the auctioneer, was also called by the defendants, but stated that he did not consider the Dendrobium true to name. It came from the Quorn House collection, and they had proved generally untrue from there. He had had a lot of trouble with all the D. × splendidissimum grandiflorum from that collection. Four different complaints had reached him about plants that came from the Selwood collection being untrue to name. Mr. Commissioner Kerr said that it seemed doubtful whether albinos might not after all revert to the coloured variety, and Odontoglossum × elegans to ordinary Hallii, but he reserved judgment until he had read the shorthand notes over again.

CATTLEYA × LORD ROTHSCHILD.

THE accompanying illustration represents the beautiful Cattleya × Lord Rothschild, from the collection of T. Statter, Esq., Stand Hall, Whitefield, Manchester, and is specially given in order to show what can be done by encouraging root action, though it also serves to show the general character of the plant on a rather reduced scale. The photograph, however, is not reproduced in its entirety, as it would have more than filled this page, but

FIG. 16. CATTLEYA × LORD ROTHSCHILD.

the appearance of the original may be inferred from the fact that exactly three-fifths of the total length of the roots have been omitted, and Mr. Johnson writes that the longest roots on the plant measure four feet, which is indeed remarkable. He also states:—"It has not received any special treatment apart from the rest of the Cattleyas in the collection. I prefer the cylinder basket for Cattleyas, as the roots seem to find their way out-

wards and travel downwards, as in the photo. I have many with a great deal of root action, and I attribute it to keeping the Cattleya house well damped down three or four times a day. I never give my Cattleyas much water at the root, but try to give them plenty in the atmosphere of the house. Plenty of moisture and bottom ventilation are the best things I can find in growing Cattleyas." We have had occasion to speak of the excellence of the results obtained in this collection on more than one occasion, and refer our readers to the account given at page 291 of our second volume. It was there pointed out that "very little top air is admitted at any time, but the bottom ventilators are almost always open. The larger plants are grown on stone benches, in which a number of circular holes are cut. Underneath are water tanks and the hot water pipes, so that the air which is continually coming in becomes warm and moist before reaching the plants." To prevent misapprehension, it should be added that the pipes are not in the water, but above it, and near the ventilators. There can be no doubt that healthy root action is one great secret of success in the culture of all classes of Orchids—as, indeed, of all kinds of plants—and those who think their method of culture open to improvement cannot do better than **embody the above hints in their practice.**

Respecting the history of this handsome hybrid, we may add that it was raised in the establishment of Messrs. F. Sander & Co., of St. Albans, its parents being Cattleya Gaskelliana ♀ and C. Dowiana aurea ♂, and that it received a First-class Certificate on October 24th, 1893, from the Royal Horticultural Society. The flowers are of good size and substance, and distinctly combine the characters of the two parents, though those of the seed parent come out the most conspicuously. The sepals and petals are of a light rose-pink shade, the latter being slightly veined with white, and the lip rich dark velvet crimson in front, with a white fringed margin, and a deep orange throat conspicuously veined with brown along the disc. The golden veining of the pollen parent is very distinct on the exterior of the side lobes. The flowers represented in the photograph were kindly sent after they had been open three weeks, and measured 6¾ inches in diameter across the petals, which organs were 2¼ inches in diameter, and the front lobe of the lip nearly as broad. As might naturally be expected, there is a certain general resemblance to some forms of C. × Hardyana, though, of course, the two hybrids are thoroughly distinct.

There are three other hybrids between C. Dowiana aurea and species of the labiata group, and, as might be expected, there is a strong family likeness between them. They are C. × Fabia, C. × Kienastiana, and C. × Empress Frederick, the second parent being, respectively, C. labiata, **C. Lueddemanniana and C. Mossiæ.**

ODONTOGLOSSUM UROSKINNERI ALBUM.

THE history of this curious plant was given at page 224 of our first volume, and two years later some further notes appeared (pp. 250 *et seq.*). The following account by Mr. De Barri Crawshay, of Rosefield, Sevenoaks, appeared in the *Gardener's Chronicle* for October 17th (p. 450): "This plant passed into my collection on October 10th, 1893, and is now again in bloom for the second time: the 1893 spike was its first appearance. The history of this rarity is as follows:—In *The Garden* of August 21st, 1886, is a note mentioning that there are seedlings of Odontoglossum in Mr. Buchan's collection at Southampton. At the sale of the collection General Berkeley, of Southampton, purchased the seedlings, that had grown fairly strong. In 1893 the first plant bloomed. It appeared to be a white-lipped O. Uroskinneri. The Orchid Committee gave it the A. M. under that name. There was diversity of opinion, but it was hoped that, given further time and more plants, blooming would prove it.

"In 1895 Mr. E. Ashworth bought the remainder of this plant, as well as the other seedlings of the same batch. I have just had Mr. Ashworth's letter saying none of his plants will bloom this season, much to my disappointment, for I hoped that 1896, being its tenth year, would settle the matter: but my plant is the only one out of the batch that has as yet bloomed. Referring to the correspondence I had with the late Mr. Buchan in August, 1886, I find that his gardener, Mr. Osborne, does not remember if he crossed the Uroskinneri flowers or whether it was merely self-fertilised. This is unfortunate, as there is but the plant to prove the second parent, and to those who are familiar with Orchid hybrids this is barely enough, for in many cases it is very hard to see which the parents were. With the plant now before me, as well as O. Uroskinneri (the known mother), and O. bictonense, it is hard to prove, but easy to believe that O. Rossii had a hand in the deal, or perhaps O. × Humeanum, on account of the yellow sepals and petals. But the crest of the lip excludes O. Rossii *in toto*, for it is that of true Uroskinneri. The form, as well as the colour of the lip say "Rossii" plainly enough: so here are two "points" in the chief segment of the bloom in direct opposition to each other. So the lip, barring its colour, is like that of Uroskinneri. Now we come to a pure yellow column, with form and wings like its mother. Where does the rose colour go to, and where does the yellow come from under the influence of self-fertilisation? So what is the column? Now the petals. These are narrower than in O. Uroskinneri: they are yellow, faintly dotted all over with a darker shade. How is the banding and aggregation of brown of O. Uroskinneri's petals turned into dots all over the petal? The sepals follow the same line as the petals, except the depth of keel on their backs. The

spike has O. Uroskinneri on a much smaller scale, opening one or two blooms at a time, but the bracts and buds are different. Finally, the plant —its leaves and bulbs are smaller and more delicate than those of O. Uroskinneri, hence the evidence is here for Rossii parentage, the leaf joins the bulb rather peculiarly, and the bulbs are more elongated and less spotted than O. Uroskinneri. Which was the father?"

CYPRIPEDIUM × BURFORDIENSE.

At the Royal Horticultural Society's meeting on October 27th a fine hybrid Cypripedium was exhibited from the collection of Walter C. Clarke, Esq., Orleans House, Sefton Park, Liverpool, whose parentage was somewhat doubtful. A coloured drawing of the same had previously been sent to us by Mr. Clarke, who wrote that it was purchased by him three or four years ago as a seedling with parentage "C. Argus Moensii × vexillarium," but now that it had flowered he was doubtful about the second parent. After examining the plant as well as the drawing it is quite evident that one parent belonged to the racemose group, and on comparing them individually we are satisfied that it must have been C. philippinense, whose influence can be traced in numerous particulars. As to the seed parent, we have no hesitation in accepting the record as correct. This would make it a form of C. × burfordiense, a plant raised in the collection of Sir Trevor Lawrence, which we have not seen, but which is recorded as a supposed hybrid between C. Argus and C. philippinense (Rchb. f. in *Gard. Chron.*, 1888, iv., p. 724). If this is correct, C. × Bryani must be considered as a form of the same hybrid. This was raised in the collection of Norman C. Cookson, Esq., from C. philippinense ♀ and C. Argus ♂, and received an Award of Merit from the Royal Horticultural Society on July 26th, 1892 (*Gard. Chron.*, 1892, xii., p. 138). It is a very handsome hybrid, and the plant exhibited by Mr. Clarke well combines the characters of the two parents. The leaves are longer and greener than in C. Argus, but with the characteristic markings, while the scape is tall, and has the marked racemose character of the other parent. The same influence is seen in the shape of the staminode and petals, which latter bear numerous large blotches, as in C. Argus. In other respects the flower is quite intermediate between the two parents, both in shape and colour, so that it is unnecessary to make a longer description. We would again impress upon our readers the importance of making careful records of all their crosses, as so many hybrids of mixed parentage are now appearing that it becomes increasingly difficult to make them out by comparison only, and these records will be important in the future.

GONGORAS IN TRINIDAD.

"GRISEBACH'S *Flora of the British West Indies* records Gongora atropurpurea, Hook., as indigenous to Trinidad. Hooker's *Exotic Flora* relates that a plant was sent in 1825 to the Liverpool Botanic Garden from Trinidad by Baron de Schach. The Kew List (1865) gives it as a native of British Guiana. Dr. H. H. Rusby's late expedition to the delta of the Orinoco found it fairly plentiful there, so that it will probably be found in the greater part of the tropical regions of South America on the Atlantic slope. It is a plant that flowers freely every year at the Gardens, growing upon blocks of wood or bark without covering of any kind at the root. Gongoras, like several other Orchids, have, when in good health, two classes of roots. First, the main, or clinging roots; and, secondly, the upright or vertical. These upright or vertical roots are found in Gongora, Coryanthes, Catasetum, and Epidendrum, and always commence growth during the moist season, having the green and growing point exactly vertical. On this point is to be seen in damp weather radiant globules of moisture. In dry weather the green and growing point entirely disappears, by gradually tapering away into a needle-shaped point, when it becomes covered with the white covering common to the clinging roots, and becomes practically non-absorbent.

"These roots are similar to those exhibited by mangrove and other swamp plants. If the surroundings to lagoon plants are examined closely it will be found that, proceeding from the roots which are below the surface of the mud, there are countless thousands of tips that are exactly perpendicular. That these roots perform some function, important both to Orchids and to mangroves, &c., is clearly apparent, as where they are most abundant the plant and the tree is most vigorous and in the most robust health. But what that function is exactly is not yet clear to us, but the feature is such a notable one that it is deserving of further close inquiry.

"Beside Gongora atropurpurea we have Gongora maculata, Lindley, which is given by some as a synonym of Gongora quinquenervis, Ruiz and Pavon. This is a much prettier Orchid from a florist's point of view than the first mentioned, and flowers more freely.

"Besides these, we have another Gongora, which gives a straw-white flower and is distinguished by lighter-coloured pseudobulbs, but for the present we place this with the last-named as a variety. Whether the two latter are deserving of specific distinction is a matter for specialists to settle, but the variation shown in the form of bulbs and the colour of the flower leads to the belief that the three are merely forms of the one species indicated by the flower being almost identical in form, no matter what colour is assumed or what shape is put on by the pseudobulb.

"Whether they are eventually proved to be species or mere varieties, it still remains that there are three forms of Gongora native to Trinidad:—1st, the dark purple: 2nd, the spotted, and 3rd, the straw-coloured: all of which are easy of cultivation at or near sea-level, in positions sheltered from the wind." —J. H. Hart, in *Trinidad Bulletin*, 1896, p. 222.

[The vertical arrangement of the rootlets here described is very curious, and deserves further investigation. We have several times seen it in Catasetum, but could not suggest any reason for the peculiarity, but if it is common to other lagoon and swamp plants, it may be a provision for enabling the roots to get out of the water in order to feed on the gases in the air. Further observation, however, seems necessary on this point. With respect to the species of Gongora mentioned, it is certain that G. atropurpurea and G. quinquenervis, which are both natives of Trinidad, are thoroughly distinct species, and a comparison of the basal horns of the lip and adjacent tissue would show some striking structural differences, beside the colour. The white variety mentioned is probably the white variety of G. nigrita, Lindl., which is well known in British Guiana. There does not appear to be any direct evidence of the occurrence of G. nigrita in Trinidad, but so many Orchids are common to the two areas that it is highly probable it also occurs there. This, too, is a quite distinct species, and the white form found in Guiana is simply an albino of it. No doubt the Kew authorities could settle these doubtful points if specimens were submitted to them.—ED.]

NOVELTIES.

ACANTHOPHIPPIUM EBURNEUM, Kranzl. —A species very closely allied to A. Curtisii, Rchb. f., which flowered in the collection of Mr. P. Walter, of Magdeburg-Wilhelmstadt, in July last. The flowers are ivory-white, with a yellowish lip, and orange crest. *Gard. Chron.*, Sept. 5th, p. 266.

DENDROBIUM JENNYANUM, Kranzl. —A tall species closely allied to D. Mirbelianum, Gaud., which flowered with M. Zollinger-Jenny, of Zurich, in August last. It produces long racemes of flowers, which have greenish-yellow sepals and petals, and a white lip with some yellow at the base.—*Gard. Chron.*, Sept. 19th, p. 329.

GONGORA SANDERIANA, Kranzl. —A Peruvian species closely allied to G. portentosa, Rchb. f., from which it is said to differ in various particulars, notably in the darker colour of the flower and in some details of the lip. It recently flowered with Messrs. F. Sander & Co., St. Albans, who imported it.—*Gard. Chron.*, Oct. 17th, p. 456.

CALENDAR OF OPERATIONS FOR NOVEMBER.

By H. A. BURBERRY, Highbury, Moor Green, Birmingham.

THE temperatures for the different departments will continue much the same as advised for last month. If any difference is made, the tendency should naturally lean to a few degrees lower rather than higher. The frequency of damping down is now much a question of the outside conditions of the weather, and the amount of fire heat which it may be necessary to use. If the weather should be mild and murky once a day will probably suffice. But should it be cold and frosty, with drying winds, then twice, or even three times in the warm departments, may be necessary.

Those quaint Orchids, Cycnoches, Catasetum, and Mormodes, have now finished flowering, and must be given a long dry rest throughout the winter months. They object to a cold temperature at any time, even when they are perfectly dry and resting. They will pass the winter very well placed at the warmest and dryest end of the Cattleya house, or it will be quite safe to keep them in the East Indian department altogether. Too much cold and wet is the ruination of this class of Orchid: even when in full growth during summer, and when the compost sparkles with bristling live roots, it is necessary to water very carefully, otherwise the new growths may damp off. The roots of all the above species invariably perish when the plants are resting, but this fact does not seem to much matter so long as new compost, small receptacles, and plenty of warmth is given when they again start to grow in the spring.

The lovely Cattleya labiata will, of course, be the greatest attraction this month. The more I make the acquaintance of this species, the more I am convinced that it has not a robust constitution. It seems to require something a little different from the general conditions of the Cattleya house, which contain and grow most others of the same genus so well. What that something is I am not quite prepared to say, but from observations made this year I shall try a new experiment next spring by subjecting a few plants to much more shade. I may say the same by C. Dowiana aurea and and C. Mendelii, all three of which seemed to me to suffer during the early part of this summer. What could be the cause other than the excessive sunshine is to me a puzzle. I don't mean to say that they went seriously wrong; but what I do say is, that beyond doubt they shrivelled up a good deal more than I care to see them, and I think also beyond what they should by nature do. I never like to see Cattleyas, or, indeed, any other Orchid, shrivel too much; it is best to keep them plump, if possible. Cattleya Schroderæ and C. maxima are two others that I think should be kept pretty well shaded, especially during spring and early summer. Some

others, such as I have from time to time mentioned in these pages, delight in a large amount of direct sunshine, and are not put about in the slightest if grown with the Mexican Lælias, but on the other hand seem to prefer it and prosper. C. Lawrenceana is always late and slow growing. It is not a difficult species by any means, but it is simply a warmer growing kind than most others, and it should occupy at the present time the warmest house, at least until the new pseudobulbs are properly made up.

Beware of the autumn flowering Cattleyas, and more especially C. labiata and C. Dowiana aurea, losing their new leaves by rot, caused by damping immediately the flower spike is cut off. This they are very apt to do, and when it occurs it is, of course, a misfortune, for the plant becomes greatly weakened. See that the sheath is wholly removed, and cut away close to the pseudobulb, with a sharp knife, the whole of the flower spike. When this precaution is taken it is usually effective, and the rot will rarely take place unless the conditions of the atmosphere are greatly at fault.

The time of year has now arrived when extra care should be exercised when watering. A bad or careless waterer is one who will go through his houses at fixed intervals and water everything indiscriminately. A good waterer will look over his plants every day, and will in the first place take into consideration the existing conditions of the weather: then, the condition of the plant, whether growing or dormant, deciduous or evergreen; the amount of compost round the roots, &c. Briefly speaking, a very little water will satisfy the requirements of all species that are more or less growing during winter; they will need to be kept just moist only, whilst those that are inactive should be watered frequently enough to keep them from shrivelling and plump, this will vary according to the species and the temperature they are in. For instance, there are two evergreen species, Cœlogyne cristata and Dendrobium thyrsiflorum, which will rest in a cool department, where the temperature will average about 50°—say from 45° to 55°, or even lower—and in such a temperature a very little water indeed will be found necessary to keep them plump; no more, in fact, then the leafless Dendrobium Wardianum, which will be in the same house, will receive. With the exception of D. Devonianum, I do not like to keep the other Dendrobiums quite so cool when resting, as they will not stand it. D. nobile, D. Findlayanum, D. crassinode, and such like species, are, I fancy, better if not usually falling below 50°.

Many Cypripediums are now in bloom, amongst others C. Spicerianum, C. insigne, and C. Charlesworthii will show up in force. These are sometimes recommended as Cool house Orchids, but I find they really do best in the Intermediate house. Selenipedium Schlimii, S. longifolium, and S. × Sedeni are also in flower. The first-named is an intermediate species, but the others grow best in the warmest house.

The sweetly scented Pleione lagenaria is most effective when well grown and in good bloom. They are now just going over, and should soon be repanned and suspended in the Cool house, keeping the compost moist. They start growing immediately, and do not appreciate much drought.

The genus Phalænopsis is one liable to mystify Orchid growers. In one garden it will grow like a weed without the slighest trouble, while in another it will not. Every house in turn is tried, and every dodge resorted to, to make the different species grow and present a respectable appearance, but all to no purpose. It seems to be simply a matter of finding the right house, and giving the right temperature; the latter is easy enough when the former is found. As a guide to success I would advise that a house be selected that lies sheltered from the north winds, and that the hot water pipes are arranged so that a sufficient supply of warmth can always be had when wanted, thus avoiding great fluctuations in the temperature. The thermometer during winter should never be allowed to fall below 60°, and only that during the very coldest weather, during which time the plants should be quite two feet away from the glass; otherwise, the cold strikes down to the foliage and causes spot—not the watery, but indented spots. The plants must never be allowed to receive much direct sunshine, not even during winter, whilst during summer they should be heavily shaded against the sun. In summer water should be supplied pretty liberally, and in winter rather sparingly. The atmosphere should be kept fairly moist, but never be tempted to run hot water pipes through the water tank with a view of causing a moist atmosphere, because this generally proves too much and results in watery spots. Keep the air sweet and healthy in winter by a little bottom ventilation. When rebasketing do not, if it can be avoided, take the plants out of their baskets, but remove the old material carefully with a stick and fill up with new. Ants are deadly enemies, and must be kept away at all costs. Thrips are also troublesome, but these can more easily be got rid of by fumigation or by tobacco powder, or both. Phalænopses should now be producing their flower spikes, which should be allowed to remain only if the plants are strong. Oncidium Papilio and O. Krameranum always grow first class when the Phalænopses are doing likewise; they are undoubtedly both fond of heat.

It is mostly necessary at this season to re-arrange the plants to some extent in most of the houses, so that each plant may have the position deemed most suitable for the winter months. The best position for the various species often takes a good long time to find out, but when once done the advantages are soon apparent. In the Cattleya house, for instance, all those that are growing more or less should be given the warmest and moistest part, whilst those that are quite dormant should be kept by themselves. The same in the Intermediate houses. The Cypripediums and

such like that are growing should be arranged together, and so on. Take care and do not place the Miltonia vexillarias in too moist a part, rather preferring a dry postion. Then again, if such kinds as Dendrobium Jamesianum, D. infundibulum, Oncidium cheirophorum, Nanodes Medusæ, Masdevallia tovarensis, M. Shuttleworthii, M. Chimæra, &c., have been summering in the coolest house, as is some times done, they will now require to be removed back to the Intermediate house. I think, also, that the Cool house is too much during winter for Oncidium Forbesii. The Cymbidiums I am leaving this year in the Cool house, and they seem to be stronger for it. The Anguloas always remain here at the driest end, and henceforth will be kept pretty dry at the root. It is better also to find a rather dry position for the Epidendrum vitellinums, for if the moisture hangs about them much during winter it causes an unnecessary loss of foliage.

Lælia anceps, and the other winter flowering short bulbed Lælias, will give the next big show of flower. They are now fast pushing up their spikes. L. autumnalis and L. albida are, I think, the most difficult of these kinds to keep long in first rate condition; but with plenty of light and air, even these will submit to cultivation, and grow fairly satisfactorily. When the growing conditions are near the mark and they deteriorate, then the chief cause undoubtedly is that they are allowed to over flower themselves. What will a strong pseudobulb not do? I have seen spikes so thick and long, that, if tested, I know would often weigh three or four times as much as the bulb and leaf together from which they sprang. That is, of course, well and good for the time being; but it must not happen too often. Doubtless the same plant, or portion of the plant, will the following year produce another spike, but from a bulb naturally greatly reduced by the last great strain. Should this small bulb be allowed to carry its spike to a flowering stage, in spite of its present exhausted state, the fate of that plant is practically sealed: it is doomed to enter a stage from which it will be a difficult task to redeem it. This is not giving them a fair chance.

Remember to call in the Orchid grower's greatest friend, fresh air, at all times when it can reasonably be done. For warm growing kinds the top ventilators if opened must, of course, be done with a good deal of caution, but for the Cool house kinds, supposing the outside temperature is not lower than 45 , plenty of ventilation should always be had, both top and bottom. When it is below that figure it is best to open the ventilators on the leeward side only. A sure sign of insufficient air is when the tips of the Odontoglossum leaves decay and require trimming up, or when a mildewy spot comes upon them. Most of these species are growing throughout the winter, but nevertheless must be watered very carefully, and not kept water-logged, as used to be the custom.

ORCHIDS AT THE ROYAL HORTICUTURAL SOCIETY.

THERE was a very interesting lot of Orchids at the Royal Horticultural Society's meeting at the Drill Hall, James Street, Westminster, on October 13th last, some of the exhibits being particularly fine, and three First-class Certificates were awarded; also a Gold Medal to a wonderful specimen of Vanda Sanderiana from the collection of J. Gurney Fowler, Esq., and a Silver Flora Medal for the magnificent Cattleya × Hardyana "Countess of Derby," from that of T. Statter, Esq., as will be seen from the following report :—

J. Gurney Fowler, Esq., Glebelands, South Woodford, Essex (gr. Mr. Davis), exhibited a magnificent specimen of Vanda Sanderiana, quite a large clump, with numerous spikes bearing an aggregate of 127 flowers. It had formerly 137, but one of the spikes was over. It was a splendidly-grown and flowered specimen, and the Orchid Committee marked their **appreciation of it by awarding it a Gold Medal.**

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr. Mr. Johnson), again exhibited the beautiful Cattleya × Hardyana "Countess of Derby" in magnificent condition, the pure white sepals and petals setting off the massive and richly-coloured lip to the greatest advantage. It received a First-class Certificate in 1894, and on this occasion a Silver Flora Medal was deservedly awarded. From the same collection came the beautiful Cattleya × Prince of Wales, and C. bicolor cœrulea, which is unique in its peculiar **slate-blue lip.**

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), staged a small group of very handsome hybrids, to which a Silver Banksian Medal was given. It contained Cattleya × Firefly (C. Dormaniana ♀ × C. Bowringiana ♂), a pretty little rose-purple flower, not yet fully developed; a light form of Lælio-cattleya × Andreana: Lælio-cattleya × T. W. Bond (C. labiata ♀ × L. purpurata ♂), a fine hybrid resembling L.-c. × eximia, but approaching the seed parent in the time of flowering; and three others to which special awards were given. These were Cattleya × Triumph (C. Lueddemanniana ♀ × C. Lawrenceana ♂), a brilliant, almost uniformly coloured form, most like a light form of the latter, with a trace of darker marking on the lip, to which a First-class Certificate was given: Cattleya × Eclipse (C. maxima ♀ × C. Skinneri ♂), most like C. maxima, but with a more trumpet-shaped lip; and C. × Jupiter (L. Lawrenceana ♀ × C. Warscewiczii ♂), a very light-coloured form. The two latter each **received an Award of Merit.**

E. Ashworth, Esq., Harefield Hall, Wilmslow, showed a very beautiful variety of Cattleya labiata, called "Mrs. E. Ashworth," to which a First-class Certificate was given. It is comparable with C. l. elegans, the sepals

and petals being pure white, and the front of the lip bright crimson-purple, broadly margined with white.

F. Wheatley, Esq., Ringmore, Teignmouth, Devon, sent a beautiful form of Cattleya Dowiana, called Wheatley's variety, in which the sepals and petals were white, with only a very faint trace of yellow, the lip being like that of C. D. aurea. A First-class Certificate was awarded.

A. H. Smee, Esq., The Grange, Carshalton (gr. Mr. Cummins), received an Award of Merit for the pretty little Comparettia speciosa, with three of its graceful racemes of light orange flowers.

J. C. Ramdens, Esq., Willingshurst, Shamley Green, Guildford (gr. Mr. Nash), exhibited a splendidly-grown plant of Vanda cœrulea, with two spikes and an aggregate of twenty-five flowers, to which a Cultural Commendation was given.

G. S. Ball, Esq., Ashford, Wilmslow, Cheshire (gr. Mr. Hay), sent a fine flower of the beautiful Cypripedium insigne Sanderæ.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), sent Odontoglossum Uroskinneri album, the curious seedling which has been mentioned in these pages on two or three occasions, but whose exact origin still remains doubtful.

T. W. Swinburne, Esq., Corndean Hall, Winchcombe, Cheltenham, exhibited a good form of Cypripedium Charlesworthii.

Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea, staged a fine group of Orchids, to which a Silver Flora Medal was given. It included some good examples of Cattleya × Wendlandii, C. × Mantinii, C. × porphyrophlebia, C. × Minuета, several fine C. labiata and C. Dowiana aurea, Lælio-cattleya × Nysa, L.-c. × Enomia, the graceful Cœlogyne Veitchii with its pendulous racemes of pure white flowers, the remarkable Peristeria elata, Cypripedium × Milo, C. × T. B. Haywood, and various others. A First-class Certificate was given to Cattleya Apollo (C. Mossiæ ♀ × C. Aclandiæ ♂), a very handsome hybrid, with flowers approaching C. Mossiæ in size, but with the firmer texture of the other parent. The sepals and petals are of a buff-pink shade, lightly veined with rose and with a few irregular purple markings, while the lip is crimson-purple in front, with some yellow in the centre, and the side lobes blush white edged with rose. Lælia × Clarinda (L. Perrini ♀ × L. pumila ♂) has light purple-tinted sepals and petals, with the veined lip dark maroon-purple in front. It is very pretty, and will probably improve as it becomes stronger.

Messrs. Hugh Low & Co., Clapton Nursery, received a Silver Banksian Medal for a good group, containing some fine examples of Cattleya labiata and C. Dowiana aurea, C. × porphyrophlebia, the pretty Oncidium ornithorhynchum album, Cycnoches chlorochilon, Cypripedium insigne Lutwycheï, C. × James Buckingham, C. × Madame Georges Truffaut,

&c. An Award of Merit was given to a very fine form of Cypripedium Charlesworthii called Low's variety, an exceptionally fine form of this handsome Orchid.

Messrs. B. S. Williams & Son, Upper Holloway, N., also received a Silver Banksian Medal for a good group, containing the remarkable Arachnanthe Lowii, a fine form of Vanda tricolor, Dendrobium Phalænopsis, Oncidium ornithorhynchum album, O. Forbesii, Cochlioda vulcanica grandiflora, a very fine form, Cattleya × blesensis, some good C. labiata, Cœlogyne Massangeana, Cypripedium tonsum, C. insigne Wallacei, C. × Arthurianum, the pretty C. × Adonis pictum, C. × Pitcherianum Williams' var., C. × Crossianum, &c.

Messrs. F. Sander & Co., St. Albans, also exhibited a fine group, to which a Silver Banksian Medal was given. It included the remarkable Habenaria Susannæ, the pretty little Lælia pumila delicata, a nearly white form, Odontoglossum grande, Vanda cœrulea, a fine Dendrobium aureum, Cœlogyne Swaniana, Calanthe vestita Sanderiana, Oncidium Krameri, a curious little green-flowered Epidendrum, Cypripedium × Fairy Queen (C. Curtisii ♀ × C. Druryi ♂), C. × Aleides, C. × Uchlemannum, C. McNabianum (C. callosum ♀ × C. concolor ♂), and several others.

At the meeting on October 27th there was a fine display of Orchids, to which the fine old Cattleya labiata contributed largely, while other autumn-flowering kinds were also well represented.

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr. Mr. Johnson), exhibited a very fine group, to which a Silver Flora Medal was given. It contained the handsome Cypripedium × Moensii, a handsome hybrid from C. callosum ♀ and C. Fairieanum ♂, which is clearly a form of C. × Juno, a splendid form of Lælio-cattleya, × Arnoldiana, and another handsome hybrid of the L.-c. × Ingramii group, together with a series of cut inflorescences. These included nine fine trusses of Cattleya Dowiana in different forms, one of which, called C. D. Johnsoniana, had sepals and petals of a very rich deep yellow, and the veining of the lip of a peculiar orange tint, besides one with the sepals and petals veined and mottled with white and rose, almost as in C. × Hardyana Massaiana, but the shape of the flower and details of the lip were as in C. Dowiana. A series of Dendrobium Phalænopsis, including the small dark variety Statteriana, was also sent, together with Cattleya × Minucia, × Johnsoniana, and × Ashtoniana.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), received a Silver Banksian Medal for an interesting group, including Lælia præstans, Lælio-cattleya × Schilleriana, Cattleya labiata and C. Warscewiczii, Oncidium macranthum, Masdevallia × glaphyrantha, M. ×

Measuresiana with several flowers, Cœlogyne fuliginosa well-flowered, Selenipedium Klotzschianum, and various Cypripediums, including C. × Mrs. Canham with fifteen flowers, C. × Henry Graves with three flowers, C. tonsum with five flowers, a good C. × Arthurianum, a hybrid marked C. callosum × insigne, and several others. The handsome white form of Cattleya labiata, with rosy-veined lip, called R. I. Measures' var. (*supra*, II., p. 358), now received a First-class Certificate, it having received an Award of Merit two years ago. Botanical Certificates were given to Restrepia maculata and R. Falkenbergii.

M. G. Mantin, Chateau de Bel Air, Olivet, France, sent a beautiful group of eight plants of Cattleya × Mantini, to which a Silver Banksian Medal was given. They showed a considerable amount of variation, some of the best being exceedingly handsome, and the strongest bearing racemes of seven and six flowers. Its history was given at page 365 of our second volume. A Cultural Commendation was given to the best form, called C. × M. nobilior. He also sent Lælio-cattleya × Belairensis, an interesting hybrid between C. Bowringiana and L. autumnalis, which is described on another page, and a handsome hybrid Cypripedium derived from C. × superciliare ♀ and C. barbatum ♂.

H. J. Elwes, Esq., Colesborne, Gloucestershire (gr. Mr. Lane), sent a very interesting group, including Habenaria Susannæ, H. longicalcarata, Saccolabium bigibbum with three dense racemes, Arundina chinensis, Acampe papillosa well-flowered, Bulbophyllum Careyanum, Pleione lagenaria, and P. Wallichiana, one spike of the latter carrying three flowers, Dendrobium Aphrodite and D. macrostachyum, a raceme of Cycnoches Loddigesii, Liparis longipes, Epidendrum fragrans, and a remarkable species of Cirrhopetalum with a large solitary flower. A Bronze Banksian Medal was awarded to the group.

Sir William Marriott, Down House, Blandford (gr. Mr. Denny), sent the pretty little Cypripedium × Marriottianum, and Cattleya × La Belle (C. Warscewiczii ♀ × C. Harrisoniana ♂), the reverse cross of C. × Johnsoniana, of which it must be considered a larger variety.

C. N. L. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), sent a very fine form of Lælio-cattleya × callistoglossa and L.-c. × Gazelle (L.-c. × elegans Turneri ♀ and C. bicolor ♂).

Walter C. Clarke, Esq., Orleans House, Sefton Park, Liverpool, sent a fine hybrid Cypripedium, probably derived from C. Argus and C. philippinense, and thus a form of C. × burfordiense.

C. J. Crosfield, Esq., Gledhill, Sefton Park, Liverpool, sent a very good flower of Cattleya labiata.

Miss D. Smith, King's Road, Ascot (gr. Mr. Lane), sent a strong plant of Cattleya Bowringiana with five very fine racemes of flowers, to which a

Cultural Commendation was given.

R. P. White, Esq., The Firs, Peckham Road (gr. Mr. Chuck), sent a good Cattleya labiata.

F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr. Mr. Stafford), sent the handsome Cattleya × Hardyana Massaiana, C. labiata alba, and fine plants of Lælia pumila præstans, also the pretty little Pleione maculata alba.

S. G. Lutwyche, Esq., Eden Park, Beckenham, sent the rare Miltonia × Lamarcheana, Cypripedium Charlesworthii, a fine hybrid between C. callosum ♀ and C. villosum ♂, and thus a form of C. × Indra, and C. × beechense.

H. Shaw, Esq., Heathfield, Birch Vale, Derbyshire (gr. Mr. Clifton), sent a good form of Cattleya maxima.

Messrs. James Veitch & Sons, Chelsea, contributed a splendid group, to which a small Gold Medal was given. It contained several good forms of Cattleya labiata and C. Dowiana, C. Bowringiana, the handsome C. × Chloris and C. × Patrocinii, Lælio-cattleya × Statteriana, Lycaste costata and L. lanipes (the former a mass of flowers), some good Miltonia spectabilis Moreliana, M. vexillaria superba, Cycnoches chlorochilon, Odontoglossum bictoniense and its variety album, O. Harryanum, and O. grande, the charming Dendrobium Johnsoniæ, Oncidium unicorne with a fine panicle of flowers, and O. ornithorhynchum, the handsome Cypripedium × tessellatum porphyreum, C. purpuratum, a fine pan of C. Charlesworthii, C. Spicerianum, C. × œnanthum superbum, C. × Milo, C. × T. B. Haywood, C. × Arthurianum with eight flowers, and various others. An Award of Merit was given to Cattleya × Elvina, a handsome hybrid derived from C. Trianæ ♀ and C. Schilleriana ♂, and showing the characters of both parents; and a similar award to Cypripedium × Regina, derived from C. × Leeanum ♀ and C. Fairieanum ♂.

Messrs. F. Sander & Co., St. Albans, contributed a handsome group, in which the forms of C. labiata were very effective, including two nearly white forms with a little colour on the lip. It also included good forms of Oncidium tigrinum and O. varicosum, Odontoglossum bictoniense album, Dendrobium Phalænopsis and its variety Statteriana, the handsome D. Johnsoniæ, the rare Macradenia lutescens, Phaius × Ashworthianus (P. Wallichii Mannii ♀ × P. maculatus ♂), a handsome hybrid most like the latter in form and colour, as well as in the spotted leaves.

Messrs. Hugh Low & Co., Clapton Nursery, also staged a fine group, in which forms of Cattleya labiata were conspicuous; also C. Dowiana aurea, Odontoglossum grande, Oncidium ornithorhynchum album, Cypripedium × Arthurianum, and others. It also contained a very fine clump of Cycnoches chlorochilon, one of the racemes bearing six flowers, and a form of Dendrobium × Leeanum, a little different from the original.

Messrs. B. S. Williams & Son, Upper Holloway, also sent an effective group of showy things, in which Oncidium Forbesii, O. ornithorhynchum, Cypripedium × Arthurianum, C. insigne punctato-violaceum, and C. × Pitcherianum Williams' variety were conspicuous, and a form of Cattleya labiata in which the petals were curious mottled and streaked with a darker colour.

Messrs. Linden, L'Horticulture Internationale, Brussels, received a First-class Certificate for a plant called Cattleya × Le Czar, which was suggested to be a natural hybrid between C. labiata and C. granulosa, though evidence of the two growing together seems desirable.

ORCHID PORTRAITS.

CATTLEYA × LORD ROTHSCHILD.—*Gard. Chron.*, Oct. 24, p. 489, fig. 86.

COMPARETTIA SPECIOSA. -*Journ. of Hort.*, Oct. 22, p. 399, fig. 72.

HABENARIA CARNEA.—*Journ. of Hort.*, Oct. 1, p. 319, fig. 61.

LÆLIO-CATTLEYA × CHARLES DARWIN.—*Journ. of Hort.*, Oct. 15, p. 377, fig. 69.

LÆLIO-CATTLEYA × CLIVE.—*Gard. Mag.*, Sept. 26, p. 657, with fig.

RENANTHERA STORIEI, Rchb. f.—*Gard. Mag.*, Sept. 26, pp. 658, 659, with fig.

TRICHOPILIA COCCINEA.—*Gard. Chron.*, Oct. 17, p. 456, fig. 77.

ZYGOPETALUM MACKAYI.—*Journ. of Hort.*, Sept. 24, p. 295, fig. 58. This is *Z.* intermedium, Lodd.

ZYGOPETALUM MAXILLARE.—*Journ. of Hort.*, Sept. 24, p. 295, fig. 57.

CORRESPONDENCE, &c.

W. H. A., Blackburn. A form of Cypripedium insigne. C. × Winnianum is a hybrid between C. villosum and C. Druryi.

W. E., Newchurch. A good form of Cattleya maxima. The two others are good forms of C. labiata, the smaller rose-coloured one with very little yellow in the throat, and darker radiating nerves on the front of the lip, we should like to see again next year, as it appears rather distinct.

New Beginner. 1 and 2, Oncidium Jonesianum, the latter very fine; 3, O. varicosum; 5, O. flexnosum; 4, Odontoglossum Rossii; average forms. We must request name and address to be enclosed on another occasion, of course not for publication.

W. J. R., Maghull. A good ordinary form of Cattleya labiata, which is very variable.

Stanhopea. The production of flower spikes from the top of the pseudobulbs of Odontoglossum maculatum and O. odoratum, as well as from the sides, is a sign of strength and affords evidence of good culture. It is occasionally seen in Odontoglossums.

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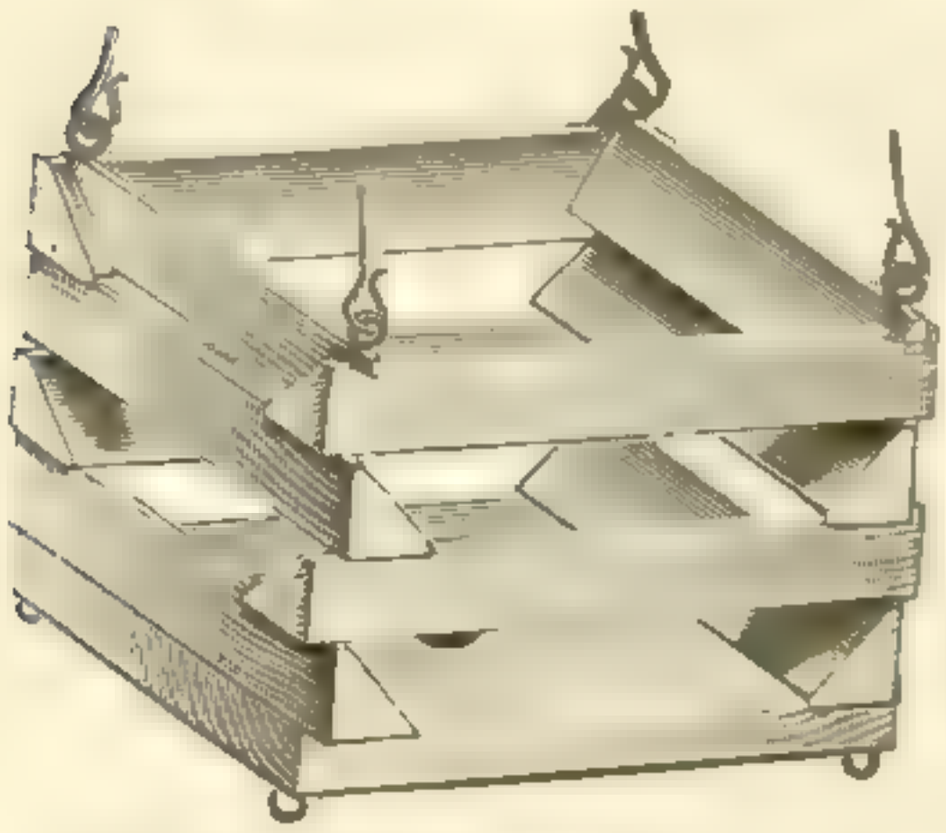

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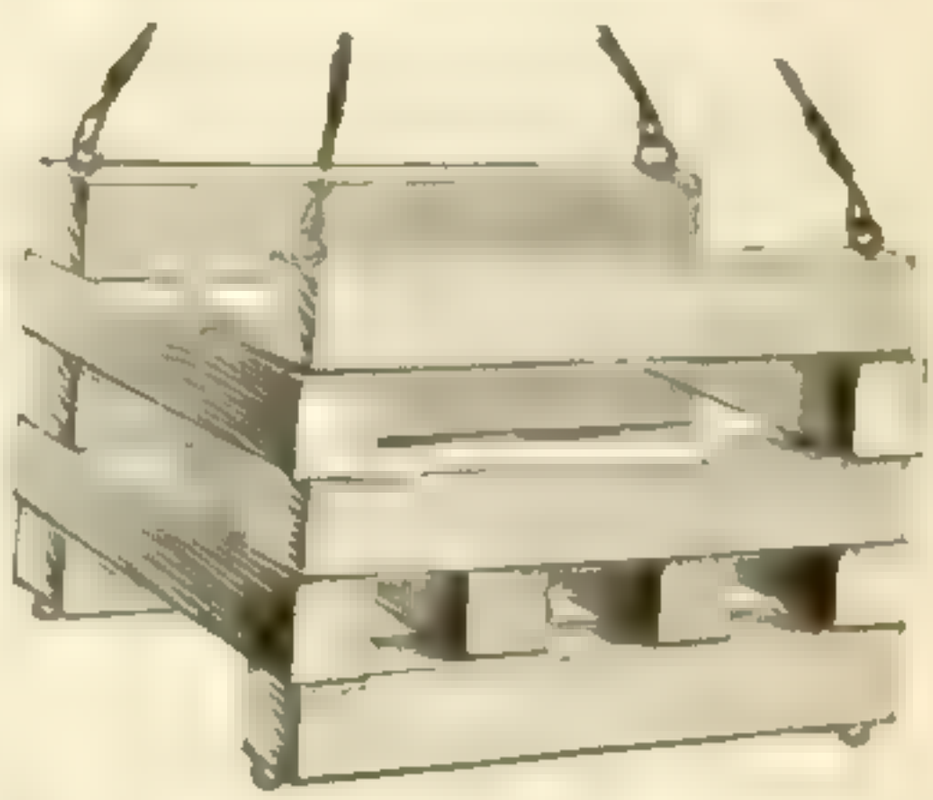
Patent No. 14,573, Aug., 1895.



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NOTES.

THE last meeting of the Royal Horticultural Society for the year will be held at the Drill Hall, James Street, Westminster, on December 15th, when the Orchid Committee will meet at the usual hour of 12 o'clock noon.

Twin-flowered spikes, both of Cypripedium insigne and C. niveum, have been sent from the collection of H. Gurney Aggs, Esq., Pippbrook, Dorking, the former being from a plant which has always produced twin-flowers from the first. The plant which produced the latter has been out of doors from the middle of May to early in September, and is in robust health, as the flowers show. Mr. Aggs has for the last two years placed certain Orchids out of doors for the summer months, and hopes to give his experience after another season's trial; which will be very acceptable.

A curious flower of Cypripedium insigne with three petals has been sent from the collection of Reginald Young, Esq., Sefton Park, Liverpool. The two petals on one side are quite perfect, but a little narrower than usual, and probably arose by division of the original one, as the flower is normal in other respects.

Another flower of Cypripedium × regale, described at page 324, is also sent from the same collection, together with a leaf, in which the characteristic markings of C. purpuratum are present in a somewhat modified form. In fact, this organ is as nearly intermediate between C. insigne and C. purpuratum as it can well be, and as the dorsal sepal shows both stripes and reflexed sides, which indicate the influence of the latter, we may safely assume the recorded parentage to be correct.

We have received a photograph of the beautiful Cattleya × Hardyana alba from the collection of W. S. McMillan, Esq., Ardenholm, Maghull, Liverpool, showing an inflorescence of two flowers. Mr. McMillan remarks that the flower is very handsome, the sepals and petals snow-white, and when in flower it looked very striking among its yellow brethren—C. Dowiana aurea, of which a fine form is also sent, the yellow areas on the sides sides of the lip being larger and darker than usual.

A very pretty light form of Cattleya labiata has been sent from the collection of W. P. Burkinshaw, Esq., of Hessle, E. Yorks, in which the sepals and petals are blush white, with a large crimson-purple blotch in front of the yellow disc, and very broad white margin. It approaches C. l. elegans in general character, except that the sepals and petals are not pure white.

A curious form of Cypripedium Charlesworthii has appeared in the collection of Dr. A. W. Hoisholt, Stockton, California, of which a photograph has been sent. The lower sepal is just twice as broad as usual, cup-shaped and veined with rose like the dorsal one, though not quite equal to it in size, and the white rather more predominating. Dr. Hoisholt has carefully looked up all the references in this work, and finds one with twin-flowered scape, and another with two lips, but nothing like the present one; nor do we remember to have met with the peculiarity before in this species. A second bud is forming on the plant.

A good flower of the chaste Lælia autumnalis alba also comes from the same collection, and six different forms of the beautiful Dendrobium Phalænopsis, showing the usual gradation from dark to very light forms. The flowers last well after being cut, and altogether it is one of the most useful autumn-flowering Orchids known.

The rare and beautiful Acacallis cyanea has also flowered in in the same collection, and a flower is also enclosed, the colour something approaching some forms of Vanda cœrulea. It is a very striking Orchid when well grown.

A very distinct and pretty variety of Lælia Dayana has been sent from the collection of F. H. Moore, Esq., of Liverpool, in which the sepals and petals have an irregular crimson band along one or both margins, giving the flower a curious variegated appearance. There is a trace of similar markings on the side lobes of the lip, which is normal in other respects.

A fine inflorescence of the chaste Cymbidium Mastersii album comes from the collection of John W. Arkle, Esq., of West Derby, Liverpool. It is like the type, except that the flowers are pure white with only a trace of yellow on the disc.

A fine form of Cattleya Bowringiana has been sent from the collection of Alfred Darby, Esq., Little Ness, Shrewsbury, in which the petals are one-and-a-half inches broad, and the sepals broader than in the typical form, giving the flower a very round appearance. This species is very useful at this season, and several very promising hybrids from it have recently appeared.

The thirty-second volume of the *Journal of the Linnean Society* contains a paper entitled, "A Revision of the genus Vanilla," by R. Allen Rolfe, A.L.S. Fifty-two species are admitted as distinct, of which sixteen are here described for the first time. The paper contains an account of the fertilisation, affinities, geographical distribution, and economic uses of the genus, with a historical introduction, complete descriptions, and a key to the species.

The same volume also contains a paper on "The Orchideæ and Apostasieæ of the Malay Peninsula," by Henry Ridley, M.A., F.L.S. Four new genera and about 130 new species are described, mostly of botanical interest. The new genera are Staurochilus, made to receive Trichoglottis fasciata, Rchb. f., but with no character given: Renantherella, a new name for Renanthera histrionica, Rchb. f.: Pelatantheria, which includes Cleisostoma cristata, Ridl., and Sarcanthus insectifer, Rchb. f.: and Ascochilus, containing Sarcochilus hirtulus, Hook. f., and a new species (A. siamensis).

A previous number of the work contains "An Enumeration of all Orchids hitherto recorded from Borneo," by the same author, in which about fifty new species are described and one new genus Porphyroglottis Maxwelliæ, allied to Chrysoglossum. A new section of Bulbophyllum is also described, called Intervallatæ, characterised by its tall stiff scape, ending in a many-flowered raceme, though the flowers expand singly at intervals, as many as eighty occurring in one species. Three species are described, of which only one is Bornean. Three other species belong to the same section, namely B. longiscapum, Rolfe: B. macrochilum, Rolfe: and B. attenuatum, Rolfe: the first being from Fiji, and the two others from Borneo.

The second part of the *Dictionnaire Iconographique des Orchidées*, by Prof. A. Cogniaux and M. A. Goosens, has reached us, and contains figures of Cattleya Warscewiczii, C. × Hardyana, C. × Victoria-Regina, Cypripedium Stonei, Dendrobium nobile, D. n. Cooksonianum, D. × Ainsworthii, D. × Cassiope, Lælio-cattleya × Nysa, L.-c. × Proserpine, Miltonia Schrœderiana, and Selenipedium × Sedeni.

The November number of the *Kew Bulletin* contains four Decades (17—20) of new Orchids, all from China or adjacent Islands. The majority are from dried specimens. but the following are in cultivation :—Dendrobium hainanense, Eria cæspitosa, and Sarcochilus hainanensis, from Hainan ; Nephelaphyllum cristatum, from Hongkong ; and Physurus chinensis, from South China. Listera grandiflora is interesting as the largest-flowered species in the genus, and Saccolabium hainanense is a new species of the same section as S. giganteum and S. violaceum.

A movement is on foot to obtain coloured drawings for future reference of the Orchids certificated by the Royal Horticultural Society. The Orchid Committee on October 27th last decided to memorialise the Council on the subject, and the latter view the matter with favour, and have asked to be supplied with a proposal in definite form as to details and probable cost. We believe that it was again before the Committee on November 24th.

DENDROBIUM SPECTABILE.

THIS is a remarkably distinct and handsome Dendrobium, a native of New Guinea and the Solomon Islands, which has been known to science for nearly half-a-century, and which would be a notable addition to our collections if it could be introduced alive. It is interesting to record that Sir Trevor Lawrence has received a plant from Malaita, one of the Solomon Islands, but unfortunately it has been four months *en route*, and it is feared is too far gone to recover. A coloured sketch and dried flower sent with it enable it to be identified. It belongs to the group of D. macrophyllum, A. Rich., and D. atropurpureum, Rolfe, but is larger and more handsome, and when first described was thought to represent a new genus, being described by Blume, in 1848, under the name of Latourea spectabilis (*Rumphia*, IV., p. 41, t. 195, fig. 1, and t. 199, fig. C), mainly from a drawing made in New Guinea by M. Latour-Leschenault, naturalist to Baudin's Expedition, which, like that of the remarkable Bulbophyllum grandiflorum made at the same time, has proved remarkably accurate. Miquel afterwards transferred it to Dendrobium (D. spectabile, *Miq. Fl. Ned. Ind.*, III., p. 645). A plant obtained from the Solomon Islands flowered at the Sydney Botanic Garden in 1884, when Sir F. Mueller wrote a note in the *Victorian Naturalist* (I., p. 51). In October, 1890, the Rev. R. B. Comins collected specimens at San Cristoval, Solomon Islands, which I described as Dendrobium tigrinum (*Annals of Bot.*, V., p. 507), completely overlooking Latourea, which is doubtfully retained as a distinct genus in the *Genera Plantarum*. The plant has clavate pseudobulbs nearly a foot long, with about four or five terminal leaves, and erect racemes of about 20 to 25 flowers, with acuminate sepals and petals, 1½ inches long,

from a broader, very undulate base, and a long pandurately trilobed acute lip. The colour is yellowish white, the sepals and petals spotted, and the lip beautifully veined with red-purple. It is much to be hoped that so striking and distinct a plant will soon be represented in European collections.

R. A. ROLFE.

LÆLIA PUMILA.

I AM surprised to see you say at page 321 that twin-flowered spikes on Lælia pumila are rare. I can only say I think my plants badly grown unless there are more twin than single spikes on them. This year, I am glad to say, there are only one or two spikes with single flowers, the rest, without exception, are "twin." I imagine it is merely a question of growing them well. What causes "colour" in Orchid flowers, I wonder? The autumn has been unusually wet and chill with us, yet Cattleya labiata, Vanda cœrulea, and also Calanthe × Veitchii are deeper and richer in colour than they ever have been with me before. Nothing can be more lovely than Vanda cœrulea as it is at present with us.

EDWARD H. WOODALL.

St. Nicholas House,
Scarborough.

MACRADENIA LUTESCENS.

THIS curious little plant has been cultivated periodically since 1822, when it appeared in the collection of Mr. Griffin, of South Lambeth, and was figured in the *Botanical Register* (VIII., t. 612), by Robert Brown. It has recently been re-introduced by Messrs. F. Sander & Co., and has, unfortunately, been again figured and described by Dr. Kranzlin under the erroneous name of Trichopilia multiflora (*Nov. Orch.*, III., p. 152, t. 288, fig. 1). It is found in Jamaica, Cuba, Trinidad, Venezuela, and possibly elsewhere, and is a small plant with arching racemes of numerous reddish-brown flowers, with a three-lobed lip and curiously toothed column. It was also described by A. Richard, in 1853, under the name of Rhynchadena cubensis (*Sagra Fl. Cub.*, III., p. 248, t. 85). There are some half-dozen other species of this curious little genus, of which M. triandra, Lindl., and M. Brassavolæ, Rchb. f., have appeared in cultivation. Another species must also be added, for on re-examination I find that Serrastylis modesta, Rolfe (*Kew Bull.*, 1894, p. 158; *Gard. Chron.*, 1894, xvi., p. 727, fig. 91), cannot be maintained as distinct from Macradenia. It may, therefore, bear the name of M. modesta, Rolfe. The affinity of the genus is with Notylia and Cirrhæa.

R. A. ROLFE.

VANDA SANDERIANA.

See FRONTISPIECE.

As a frontispiece to the present volume we have much pleasure in giving an illustration of the magnificent specimen of Vanda Sanderiana, from the collection of J. Gurney Fowler, Esq., Glebelands, South Woodford, Essex, to which a Gold Medal was given by the Royal Horticultural Society on October 13th last. As was recorded at page 347, the plant, when exhibited, bore an aggregate of 127 flowers; but one raceme of ten flowers was over, and had been removed. Its general appearance is shown in the illustration, which is reproduced from a photograph kindly sent by Mr. Fowler, and we congratulate him and his gardener, Mr. Davis, on such an example of cultural skill. It serves to recall the famous specimen of Cœlogyne Dayana from the collection of Baron Schroder, and of Epidendrum Stamfordianum from that of Sir Trevor Lawrence, of which details have been given in these pages.

Mr. Fowler has sent the following note, which will be read with interest: "I purchased the Vanda Sanderiana from Messrs. Low & Co. on the 15th August, 1895. It flowered first in September of that year, bearing two flower spikes and seventeen flowers. It was brought over by Messrs. Low's collector in a large basket, and in the June following I thought it advisable to repot it. It flowered again in October last, with twelve spikes and 137 flowers in all. It has grown in the East India house, on the centre stage, over a large tank of rain water, and has seven growths, three of them being 3ft. 6ins. in height. Since it has been with me it has made four pairs of leaves."

The history of the species is thus given by Messrs. Veitch in their *Manual* (VII., p. 103): "This remarkable Vanda, one of the most appreciable gains to horticulture during the last decade, was discovered by M. Roebelin, the energetic collector of Messrs. Sander & Co., who succeeded, in 1882, in reaching the previously unexplored portion of south-east Mindanao, where he detected this, and the scarcely less remarkable Aerides Lawrenceæ and Phalænopsis Sanderiana. Our own collector, David Burke, also succeeded in reaching the same region a few months later, and from that time these fine Orchids became generally distributed among the Orchid collections of Europe and America. The principal station of Vanda Sanderiana is at Davao, on the south-east coast of Mindanao, at places growing on trees that over-hang the beach, and where the long trailing roots of this Orchid are often within reach of the salt spray. It flowered for the first time in this country in the summer of 1883, in the collection of Mr. Lee, at Downside, Leatherhead, since dispersed."

NOMENCLATURE OF ORCHIDS.

I BEG again to call attention to the extraordinary laxity of the Orchid Committee of the Royal Horticultural Society in regard to the nomenclature of Orchids. They may, perhaps, plead that it is not their fault that growers or sellers of Orchids give improper names to their plants, but surely they might refuse to recognise such plants, or to bestow on them First-class Certificates and Awards of Merit. This, however, they appear to be unwilling to do, and the result is that confusion is becoming worse confounded.

At the exhibition at the Drill Hall on October 13th Lælio-Cattleya × T. W. Bond was shown as a cross between Cattleya labiata and Lælia purpurata. If the Cattleya parent was Warneri, the plant has already been named as Lælio-Cattleya × eximia, and again as Lælio-Cattleya × Valvassorii. If the seed parent is labiata autumnalis, it has been named before as Lælio-Cattleya × Wellsiæ, and as such has received an Award of Merit.

At the same exhibition Cattleya × Triumph was passed, although it is the same cross as Cattleya × preciosa, which was exhibited a few months ago by the same grower on May 5th.

There was also exhibited Lælia × Clarinda, which has been named before as Lælia × juvenilis.

Then, at the next meeting on October 27th, Cattleya × La Belle was exhibited, which is the reverse cross of × Johnsoniana, which is itself the same cross as × Ashtoniana, both being apparently the same cross as C. × Minucia.

It is easy to see from these examples what the difficulty of the collector is likely to be in the near future, when he attempts to identify hybrid Orchids.

J. CHAMBERLAIN.

Highbury,
Moor Green,
Birmingham.

[Only one of the four plants named received an Award of Merit, namely, Cattleya × Triumph, which is clearly synonymous with or only a variety of C. × Preciosa. And it is just possible that the Committee may have overlooked the fact that they granted an Award of Merit to the same cross on May 5th last. Still, it is not too much to expect them to keep account of the plants to which Certificates are granted, and the latter Certificate should never have been given, according to their own rules. With respect to the rapid increase of unnecessary names, we would suggest that if people will persist in re-naming well-known crosses, the Committee

should cancel them before the reporters go round, and then perhaps some of this unnecessary confusion would be prevented, as it is almost too much to expect that reporters should verify every name for themselves. We have frequently suppressed such names in our reports, but they have appeared elsewhere. We would refer our readers to the remarks on this question at pages 133, 165, and 172 of the present volume, and urge them to assist in checking the rapidly growing confusion to which Mr. Chamberlain has called attention.—ED.]

CYPRIPEDIUM × MEDEIA MONSTROSA.

A FLOWER of this curious plant has been sent by Mr. W. B. Latham, Curator of the Birmingham Botanic Garden, who remarks that he raised it by crossing C. Spicerianum with the pollen of C. hirsutissimum, and that the flowers retain their abnormal character every season. It appears to have been first recorded in the autumn of 1892 (*Gard. Chron.* 1892, xii., p. 713), but was then said to have bloomed for three or four years, never varying in character. An interesting note is given by Hansen (*Orch. Hyb.*, p. 70), which we do not remember to have met with elsewhere, and presume that it was communicated by Mr. Latham. He remarks that Mr. Latham "had sent it to Mr. R. A. Rolfe, who named it provisionally as above, and added:—'Veitch's hybrid is normal in character, yours may or may not become so hereafter. Others from the same cross may come all right if you have them. The lip is not really absent, but abnormal in shape, more like a sepal. Its greatest curiosity to my mind is that the two stamens are changed into perfect staminodes. I should keep it, if only as a curiosity; it is a very instructive plant. If proof were wanted that the staminode is only a modified stamen, surely here it is.'" However, it appears that only a single seedling was raised. The plant is said to be intermediate between the two parents, but the dorsal sepal and staminode are almost identical with C. Spicerianum, except that the former is reduced in size and nearly flat. The petals also have a little white at the apex, like the dorsal sepal. The lip is elliptical-oblong, a little concave at apex, and light green irregularly striped with dull purple. An examination of the flower reveals the highly interesting fact that the two additional staminodes do not belong to the inner staminal whorl, but to the outer one, and thus represent the two missing side lobes of the lip. The filaments of the two normal stamens of Cypripedium are present, but without the anther, and are in their usual position at the base and on either side of the stigma, and within but slightly above the supernumerary staminodes, affording additional confirmation of the theory that the side lobes of the lip in Orchids are staminodial in their origin.

COMPLEX CYPRIPEDIUM HYBRIDS.

Two or three correspondents are studying inheritance in regard to hybrid Orchids, and the following list, which has been sent to us as a contribution to the question, will probably interest our readers. Some curious facts with regard to hybridisation among Orchids are gradually coming to light, and it is an interesting matter to have them recorded in accessible form.

It is curious to note that the first nine names on the list are all derived from combinations of C. barbatum, insigne, villosum, and Spicerianum, which have been arrived at in four different ways, namely:—C. × Leeanum ♀ × C. × œnanthum ♂, C. × Harrisianum ♀ × C. × Leeanum ♂, C. Spicerianum ♀ × C. × œnanthum ♂, and the last cross reversed. In the two next on the list C. Spicerianum is replaced by C. venustum, and the combinations were effected by the crosses, respectively:—C. × calophyllum ♀ × C. × œnanthum ♂, and C. × Crossianum ♀ × C. × Harrisianum ♂. In the next two bracketed together, C. venustum was replaced by C. Argus, and the hybrids were obtained by such apparently different crosses as C. × œnanthum ♀ × C. Argus ♂, and C. Ashburtoniæ ♀ × C. × vernixium ♂. The exact parentage of the remaining crosses may be found by the help of the references. No less than fourteen of the hybrids here enumerated have had C. × oenanthum for one parent, which is partly explained by the fact that three species are included in its composition.—ED.

LIST OF CYPRIPEDIUM HYBRIDS IN EACH OF WHICH FOUR DISTINCT SPECIES ARE REPRESENTED.

		barb.	insign.	vil.	Spic.
C. × Figaro	(*G.C.*, 1889, vi., p. 750) ...	1/8	1/4	1/8	1/2
C. × Tityus	(*G.C.*, 1892, xii., p. 622) ...	,,	,,	,,	,,
C. × memoria-Moensii ...	(*Lind.*, viii., t. 361) ...	,,	,,	,,	,,
C. × œno-Spicerianum ...	(*G.C.*, 1895, xvii., p. 200)	,,	,,	,,	,,
C. × Charles Reffold ...	(*J.R.H.S.*, xv., p. cxcvi.)	,,	,,	,,	,,
C. × Brunianum ...	(*G.C.*, 1892, xii., p. 443) ...	,,	1/2	,,	1/4
C. × A. J. Herrington ..	(*G.C.*, 1895, xviii., p. 588)	,,	,,	,,	,,
C. × Harri-Leeanum ...	(*O.R.*, i., p. 375) ...	1/4	1/4	1/4	,,
C. × Clement Moore ...	(*Gard.*, 1895, xlviii., p. 48)	,,	,,	,,	,,
					venust.
C. × Pollettianum ...	(*G.C.*, 1890, viii., p. 702.)	3/8	1/4	1/8	1/4
C. × Boyleanum ...	(*R.H. Meas. Cyp.*, ed. 2., p. 17)	1/4	,,	1/4	,,
					Argus
C. × Lowryanum ...	(*Hansen*, p. 159) ...	1/4	1/4	1/4	1/4
C. × Madame Josci Des-combes	(*G.C.*, 1895, xvii., p. 200)	1/8	,,	1/8	1/2

			barb.	insign.	vil.	Lawr.
C. × Bijou ...	...	(*G.C.*, 1892, xii., p. 138) ...	⅛	¼	⅛	½
C. × Marshianum	...	(*Charlesw. Cat.*, 1895) ...	,,	,,	,,	,,
						Hook.
C. × Cleopatra	...	(*G.C.*, 1892, xi., p. 458) ...	⅛	¼	⅛	½
						Lowii.
C. × Daisyæ ...	...	(*G.C.*, 1892, xii., p. 301) ...	⅛	¼	⅛	½
						superb.
C. × œno-superbiens	...	(*O.R.*, i., p. 287) ...	⅛	¼	⅛	½
						Boxal.
C. × rubescens...	...	(*O.R.*, i., p. 375) ...	⅛	¼	⅛	½
						Dayan.
C. × Tennyson...	...	(*O.R.*, i., p. 364) ...	⅛	¼	⅛	½
						Fair.
C. × Baron Schröder	...	(*G.C.*, 1896, xx., p. 667) ...	⅛	¼	⅛	½
					venust.	Spic.
C. × Boltonianum	...	(*Proth. and Mor. Cat.*, 27th Aug. 1895.)	¼	¼	¼	¼
						Hook.
C. × Lachesis ...	...	(*O.R.*, iv. p. 104) ...	¼	¼	¼	¼
					Ston.	Lawr.
C. × annamense	...	(*O.R.*, iv., p. 63) ...	¼	¼	¼	¼
				insign.	vil.	superb. Spic.
C. × Henri Vander-Straeten		(*O.R.*, iv., p. 64) ...	¼	¼	¼	¼
					Stonei.	
C. × Leeanum-Morganiæ		(*R.I. Mem., Cyp.*, ed. 3, p. 36)	¼	¼	¼	¼
C. × Pegasus ...	...	(*Gard.*, 1896, xlix., p. 89)	,,	,,	,,	,,
				Lawr.	Argus.	philip.
C. × Frau Ida Brandt ...		(*O.R.*, iii., p. 223) ...	¼	¼	¼	¼

It should be mentioned that the species in the above list are not necessarily the ordinary forms of Cypripediums insigne, barbatum, Spicerianum, &c., but sometimes varieties of the same. In one or two cases, perhaps, there is a reasonable doubt as to the exact parentage, but the great majority have been recorded with proper care. It is interesting to note that up to the present time no hybrid Cypripedium has been recorded in which more than four distinct species are represented; there are, however, seedlings in existence combining five species, but they have not yet reached the flowering stage. Although there are 27 hybrid Cypripediums recorded as a combination of four species, some are synonymous, and others merely varieties of the same cross, so that the above list may be fairly reduced to 19 as being really distinct, and to 15 so far as the four parent species are concerned.

REGINALD YOUNG.

THE CYPRIPEDIUM GROUP.

(Concluded from page 334.)

7. Paphiopedium.

This genus comprises all the tropical Cypripediums of the Old World, and differs from the three others in having the dorsal sepal folded within the lateral ones in the bud, however much larger than them it may become when fully developed. It combines the ovary of Cypripedium, as here limited, with the general habit of Phragmipedium, and agrees with both in the fusiform, not crustaceous seeds. It contains about 42 known species, and ranges from the Himalayas and South India through the Malay Archipelago to New Guinea, and to Hong Kong by way of the Philippines.

Key to the Species.

Leaves elongate-linear or linear-oblong, mostly green.
  Flowers in racemes.
    Bracts ovate or ovate-lanceolate.
      Staminode without basal tubercle.
        Staminode broad with obtuse apex.
          Petals 4—6 in. long.
            Base of petals without marginal warts — 1. P. Stonei, Pfitz.
            Base of petals studded with marginal warts.
              Petals three to four times longer than lip — 2. P. philippinense, Pfitz.
              Petals not or scarcely three times longer than lip — 3. P. præstans, Pfitz.
          Petals a foot or more long — 4. P. Sanderianum. Pfitz.
        Staminode with acute beak-like apex.
          Beak of staminode short: dorsal sepal about 1½ in. long — 5. P. glanduliferum, Pfitz.
          Beak of staminode long: dorsal sepal about 2½ in. long — 6. P. Rothschildianum, Pfitz.
      Staminode with an erect basal tubercle.
        Petals elongate-linear, much twisted — 7. P. Parishii, Pfitz.
        Petals linear-spathulate, nearly flat.
          Apex of petals not twice as broad as base: dorsal sepal spotted at base . . . . 8. P. Haynaldianum, Pfitz.
          Apex of petals fully twice as broad as base: dorsal sepal unspotted — 9. P. Lowii, Pfitz.

Bracts oblong, obtuse or nearly truncate.

10. P. Chamberlainianum, Pfitz.

Dorsal sepal and petals variously lined with brown

Dorsal sepal and petals not lined with brown

11. P. Victoria-Mariæ, Rolfe.

Flowers normally solitary, or twin in luxuriant specimens.

Petals straight, or nearly so.

Upper margin of petals nearly or quite flat.

Scape and ovary villose.

Dorsal sepal unspotted . 12. P. villosum, Pfitz.

Dorsal sepal bearing many blackish spots

13. P. Boxallii, Pfitz.

Scape and ovate pubescent.

Dorsal sepal elliptical- or ovate-oblong.

Dorsal sepal 2—2½in. long 14. P. insigne, Pfitz.

Dorsal sepal 1¼—1½ in. long.

Dorsal sepal without dark median band

15. P. Exul, Rolfe.

Dorsal sepal with blackish-purple median band

16. P. Druryi, Pfitz.

Dorsal sepal orbicular . . 17. P. Charlesworthii, Pfitz.

Upper margin of petals strongly crisped or undulate.

Dorsal sepal orbicular, as long as petals

18. P. Spicerianum, Pfitz.

Dorsal sepal ovate, much shorter than petals

19. P. hirsutissimum, Pfitz.

Petals falcate . . . . 20. P. Fairrieanum, Pfitz.

Leaves elliptical or oblong, generally tessellated with two shades of green.

Petals linear-oblong; scape ¾—1¼ ft. high.

Dorsal sepal ovate.

Staminode orbicular or oblong; dorsal sepal not striped.

Staminode 5—7 lin. broad . 21. P. Hookeræ, Pfitz.

Staminode 3—4 lin. broad.

Dorsal sepal longer than broad, subacute.

Leaves strongly tessellated · 22. P. Bullenianum, Pfitz.

Leaves obscurely tessellated 23. P. Appletonianum, Rolfe.

Dorsal sepal as broad as long, obtuse

24. P. Mastersianum, Pfitz.

Staminode broader than long; dorsal sepal striped with green or purple.

Petals not ciliate . . . 25. P. tonsum, Pfitz.

Petals ciliate.

Dorsal sepal as long or longer than broad.

Petals unspotted or with few irregular spots.
Petals 5—7 lin. broad.
Petals with a few spots; ciliæ 1—2 lin. long.
Dorsal sepal 1¼—2⅓ lin. long.
Petals with a few small blotches
26. P. venustum, Pfitz.
Petals with a few minute spots at base
27. P. virens, Pfitz.
Dorsal sepal 1¾—2 in. long
28. P. javanicum, Pfitz.
Petals unspotted; ciliæ 2—3 lin. long
29. P. Dayanum, Pfitz.
Petals about 3 lin. broad . 30. P. nigritum, Pfitz.
Petals regularly spotted to or beyond middle.
Upper third of petals unspotted
31. P. ciliolare, Pfitz.
Petals spotted to apex.
Spots small and regular.
Petals 2 in. long; ciliæ regular ¾ lin. long
32. P. Curtisii, Pfitz.
Petals 2½ in. long, ciliæ irregular, the longer hairs fully 1¼ lin. long . 33. P. superbiens, Pfitz.
Spots irregular, some a line or more broad
34. P. Argus, Pfitz.
Dorsal sepal distinctly broader than long
35. P. purpuratum, Pfitz.
Dorsal sepal suborbicular.
Petals more or less deflexed.
Petals nearly straight, 1¾—2 in. long
36. P. barbatum, Pfitz.
Petals falcate, 2—2¼ in. long 37. P. callosum, Pfitz.
Petals horizontal . . . . 38. P. Lawrenceanum, Pfitz.
Petals broadly elliptical or elliptical-oblong; scapes 2—6 in. high.
Scape 2 -3 in. high; flowers with yellow or cream-coloured ground.
Flowers yellow and but little spotted
39. P. concolor, Pfitz.
Flowers cream-coloured and much spotted.
Margins of petals more or less undulate
40. P. Godefroyæ, Pfitz.
Margins of petals flat . . . 41. P. bellatulum, Pfitz.
Scape 3—6 in. high; flowers white with a few minute purple spots
42. P. niveum, Pfitz.

The following are believed to be natural hybrids, their supposed parents being placed in the two right-hand colums :—

P. × siamense, Rolfe, derived from P. callosum and P. Appletonianum.
P. × Petri, Pfitz., „ „ P. Dayanum „ P. virens.
P. × Littleanum, Rolfe, „ „ „ „ „ P. Lawrenceanum.
P. × Kimballianum, Rolfe, „ „ „ „ „ P. Rothschildianum.

This completes the outline of the Suborder Diandræ, the genera and species being arranged as far as possible in systematic order, and by the aid of the keys it will be possible for anyone to find the name and position of any doubtful species they may possess. Such an arrangement has never before been given, and other details, such as full descriptions, references to figures, geographical distribution, &c., can all be found in the various works devoted to the subject. In order to prevent any uncertainty, it may be pointed out that the specific names are the same as those by which they have previously been known under other genera. With respect to Selenipedium, it may be asked why the name was not retained for the cultivated species now ranked under Phragmipedium, rather than for the other group. To which it must be answered that neither the name nor the character given by Reichenbach belong to the former. The name alludes to the small lip (*selenis*, a little crescent), and the character of having round, crustaceous, Vanilla-like seeds is only found in Selenipedium as now limited. Reichenbach spoke of it as occurring in two species (S. palmifolium and S. Chica), and the further remark, "perhaps in all the species," has proved erroneous. The amended spelling, Cypripedilum, Selenipedilum, I see no reason to adopt (this question has been fully discussed by Buser in *Bull. Herb. Boiss.*, II., p. 642), and although Paphiopedilum was the original spelling in this case, it is clearly advisable that the termination should be uniform in the four genera.

It may be interesting to supplement the above with a few remarks about the remaining great suborder Monandræ, and its relationship to the Diandræ. It differs essentially in having only a single perfect stamen,—the median one of the outer staminal whorl :—by the pollen grains being compound, and variously agglutinated together into masses, or pollinia ; and by one of the three stigmas being modified into a special organ, called the rostellum, which serves the purpose of secreting the viscid matter by which the pollinia are attached to the bodies of insects which visit the flowers ; and also, in the majority of cases, of preventing the pollinia from reaching the stigma of the same flower. The column is also generally much more developed, owing to the elongation of the disc-like base.

It may be divided into tribes and genera, like the Diandræ, but the only point which concerns us now is the exact point of contact with the latter. Dr. Pfitzer, who has attempted an arrangement of the Order with

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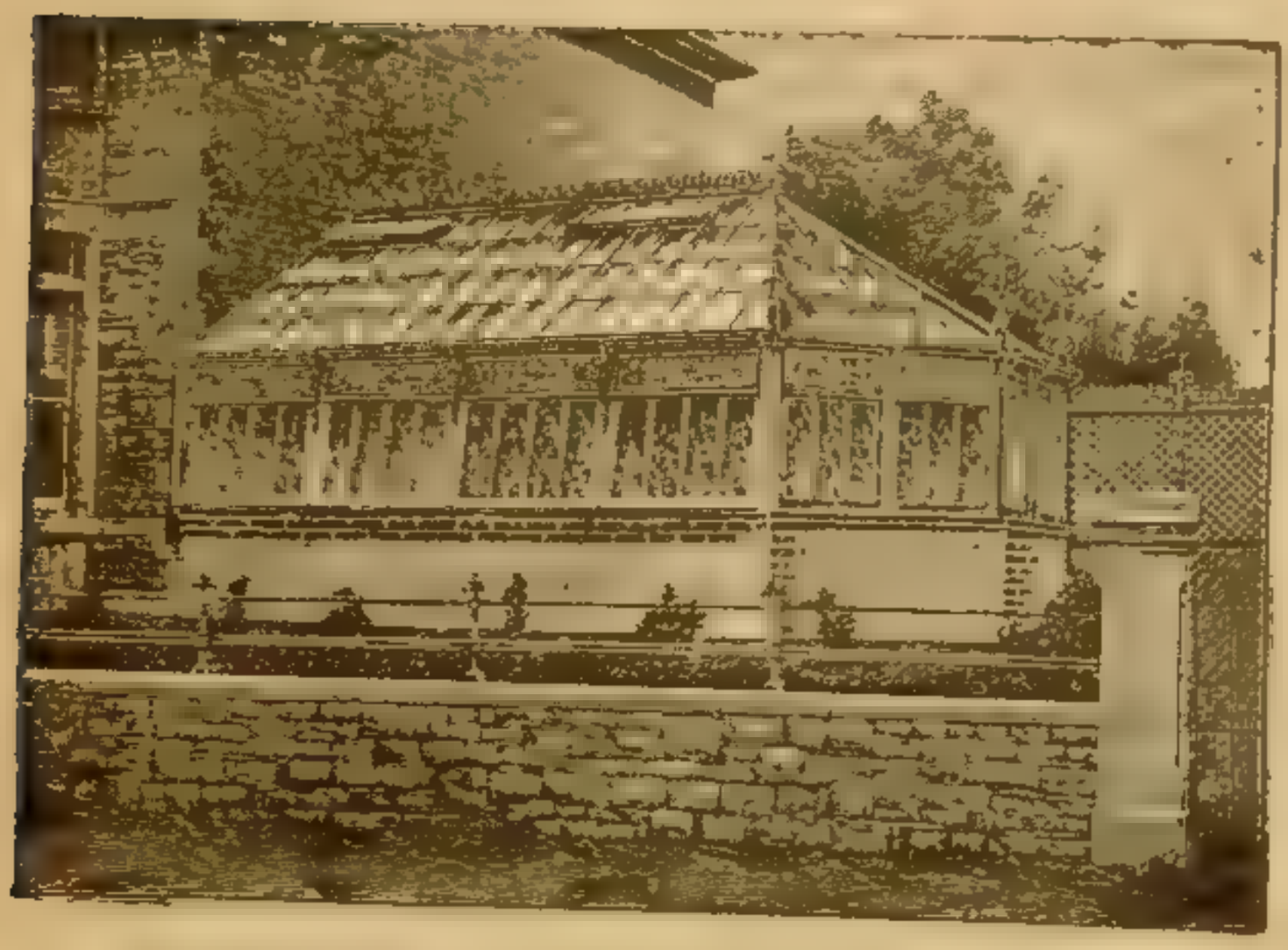

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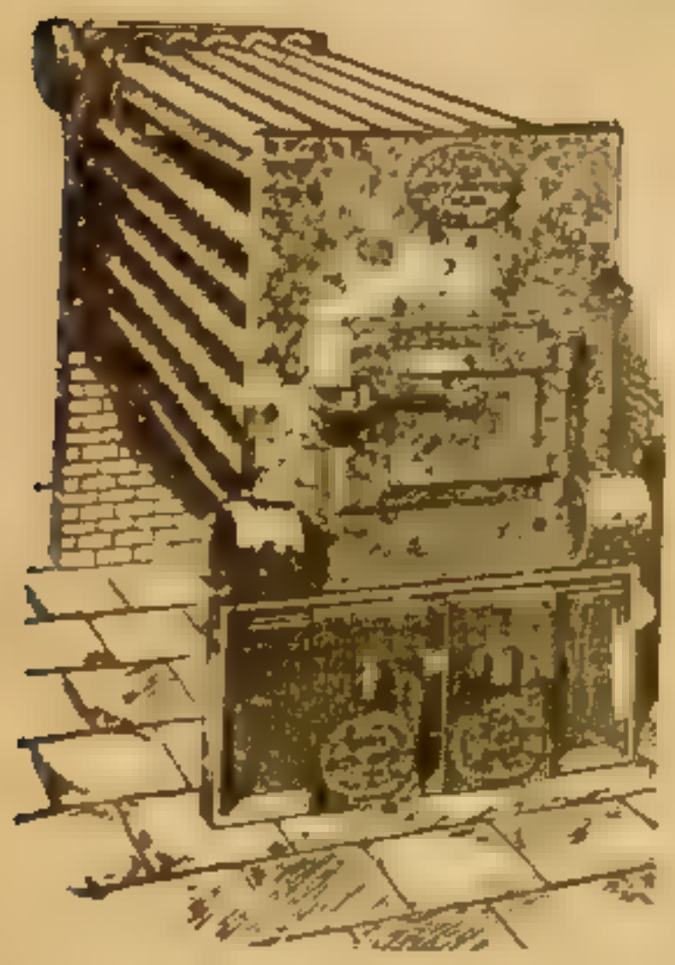

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DEVOTED TO ORCHIDOLOGY.

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respect to its progressive development, places the tribe Ophrydeæ next to Cypripedieæ, but an examination of its highly complex structure shows it to be far more remote. In fact Ophrydeæ differs from the rest of the Order in having a basal caudicle and gland, and the anther-cells completely adnate to the column, persistent, and often continuous with the rostellum; and from a variety of considerations must be placed at the head of the series. The remaining tribes, Neottieæ, Epidendreæ, and Vandeæ, agree in having an operculate or deciduous anther, and the caudicle and gland, if developed, apical. Of these Vandeæ occupies the highest position, and Neottieæ the lowest, and it is among the latter that the next allies of the Diandræ must be sought. Of the half-dozen subtribes into which the Neottieæ may be divided, Corymbieæ clearly occupies the lowest position, having precisely the habit of Apostasieæ, and although the column is much developed all the parts of the flower are of relatively simple organisation. It contains two genera, Corymbis and Tropidia, neither of which are in cultivation. From these there is a pretty easy transition to the Vanilleæ, Arethuseæ, and Spirantheæ, and groups of more complex structure. It is very interesting to be able thus to trace some of the steps by which the Order has been progressively modified, and it is by this means that the structure of the higher and more complex genera can best be traced. Without such aids it would be a very difficult matter to trace the homologies of some of the complex structures found in the most highly specialised Orchid flowers.

R. A. Rolfe.

SOBRALIA LINDENI.

From time to time some distinct Orchid gets established in cultivation which has never been botanically described, and the above Sobralia appears to be one of these. Its history was thus given in the *Gardener's Chronicle* about a year ago (1895, xviii., p. 424):—"Under this name a few fresh imported tufts of Sobralia were sold by Messrs. Linden, of Brussels, at Messrs. Protheroe and Morris' rooms in Cheapside, on September 12th, 1893. A flower from a specimen then purchased is kindly forwarded by C. J. Lucas, Esq., Warnham Court, Horsham, and, as Mr. Lucas says, it is a most charming species. The flower is large, the sepals and petals of a delicate blush white, and the lip is also blush white on the basal half, but the front portion is of a rich deep crimson-purple, shading off into a nearly blue tint towards the margin. This finely coloured area is traversed by well-defined branching white lines, which make it a very distinct feature. At a distance the flower resembles a light form of Cattleya Luddemanniana." This very plant received an Award of Merit from the Royal Horticultural Society, on October 15th, 1895. The species

has also flowered in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking. It belongs to Lindley's second section of the genus, characterised by having flowers in a flexuose raceme, with distant cymbiform or boat-shaped bracts, and is allied to S. rosea, Pœpp. and Endl., and S. Liliastrum, Lindl. There are some half-dozen other species in the group, but they are chiefly, if not altogether, known from dried specimens. The habitat is not recorded, but undetermined specimens collected in Ecuador by Spruce, in 1858, appear to be identical. Spruce's ticket states "Caules 6-7 pedales, foliosi, corolla pallide rosea, labio roseo-purpureo picto. Montana de Canelos, in saxosis, secus fl. Verde, April, 1858; n. 5379." Although collected so long ago, these dried specimens still show the broad red-purple radiating lines on the front of the lip which constitute such a feature of the garden plant. Of course it does not follow that the latter came from the same exact locality, but as the two are also identical in habit, I have no doubt that both belong to the same species. The flowers measure over three inches long, and last several days, as one which expanded on November 16th was only partially faded a week later.

R. A. Rolfe.

CYPRIPEDIUMS OF DOUBTFUL PARENTAGE.

We have received a series of seven hybrid Cypripediums from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, which were purchased as very small plants without any record of parentage, and have now reached the flowering stage. A flower and leaf is sent in each case, and the question is from what parents they have sprung. No. 1 is a light form of C. × Leeanum: 2, 4 and 5 are forms of C. × Pageanum, the characters of C. Hookeræ and C. superbiens being unmistakably present; 3 and 7 are forms of C. × Atys, derived from C. venustum and C. Hookeræ; and 7, we believe, owes its origin to a cross between C. barbatum and C. × Harrisianum, and is thus a form of C. × Ensign. The leaf is most like C. barbatum, as might be expected from the fact that it has three-fourths blood of that species, and the flower is about intermediate between the two parents. We hope that these seedlings of unrecorded parentage will not become too numerous. Tracing their descent may be a very good form of mental athletics, but as we hear of seedlings progressing towards the flowering stage in which no less than five species are represented, we advise readers to take care of the records, if they wish to know their descent. Signs are not wanting of the gradual evolution of a race of highly ornamental florists' flowers, and it will be interesting in future to trace the steps by which they originated.

CATTLEYA LABIATA YOUNGIANA.

THIS remarkable variety of Cattleya labiata appeared in the collection of Reginald Young, Esq., Fringilla, Sefton Park, Liverpool, and was described at page 358 of our second volume. It is remarkable for its short, broad recurved petals, with some crimson-purple feathering near the apex, and for the unusually broad dorsal sepal, which closely resembles the petals in shape, and measures one and a half inches in diameter. There is also a trace of the purple feathering towards the apex, as well as in the lateral sepals, but this is more apparent in the flower sent than in the photograph

Fig. 17. CATTLEYA LABIATA YOUNGIANA.

sent by Mr. Young. The lip and column are quite normal, but the sepals and petals are in a somewhat abnormal state, though from a florist's standpoint it is handsomer than the typical form, which cannot be said of all peloriate flowers. The sepals seem to have become partially petal-like, especially the dorsal one, though it is difficult to suggest a cause for the peculiarity. Of the numerous abnormal flowers which we have examined at different times we do not remember one quite like the present. It will be interesting to note if it remains constant, as not infrequently happens.

CALENDAR OF OPERATIONS FOR DECEMBER.

By H. A. BURBERRY, Highbury, Moor Green, Birmingham.

THE temperature for the winter months should range as follows:—

THE COOL HOUSE.—Day, with sun, 60°; without sun, 50° to 55°; night, 50°; morning, 45° to 50°.

THE INTERMEDIATE HOUSE.—Day, with sun, 65° to 70°; without sun, 60°; night, 55° to 60°; morning, 55° to 58°.

THE WARM HOUSE.—Day, with sun, 70° to 75°; without sun, 65° to 70°; night, 60° to 65°; morning, 60°.

The present autumn has, up to the time of writing, been particularly foggy, and in large centres of industry the air has been impregnated with smoke and various gases, which would otherwise have passed away quickly into space, and thus the atmosphere has been rendered more or less distasteful to vegetable life. Some species are, of course, more sensitive in this respect than others: but generally speaking the flowers of all become affected in a greater or lesser degree, whilst the foliage of some also soon indicates its objection to atmospheric impurities by turning yellow and falling off. I have noticed this most particularly with some of the Mexican species, such as Epidendrum vitellinum and Lælia autumnalis. It is, unfortunately, an ill which must be endured, and the only way to avoid extremes in this matter of loss of foliage that I can suggest is to keep up a good supply of atmospheric moisture, and admit no air during the times the fog is on. Now that we are in the depth of the dull season it is more than ever necessary to be careful in such matters as watering, ventilating, and paying constant attention to the maintenance of the most suitable atmosphere. Of course, no good cultivator will try to force his plants to make growth quickly at this dull dark season; but will endeavour by all possible means to prevent them from going back. This can be done only by keeping up the above-mentioned temperatures steadily, avoiding excessive heat or cold, moisture or aridity. Of the two latter I believe aridity is the most injurious when carried to extremes, either at the roots or in the air. It should be seen that the resting of any Orchid that may be dormant is not too severely done, whilst all those that are growing should be afforded enough water to keep the compost in a moistened state. And it will generally be found necessary to damp down the floors, &c., once or twice daily, as it may seem to require. This will cause the hygrometer to register, if that instrument is employed, about three degrees below the temperature, or in other words three degrees of evaporation for the greater part of the time, and this remark applies to the Cool, Intermediate, and Warm departments; that is, so far as it affects the atmosphere. Where it is possible to collect all the cool resting Cœlogynes, Dendrobiums, Lycastes, and some few individual members of the genera Odontoglossum and Oncidium and their allies into

one house, the hygrometer may show five, or at times even ten degrees of evaporation, and the plants will at the same time be the better for it, so long as they do not shrivel, because they will be more completely rested.

In the Warm houses it sometimes happens that some portion is apt to become unduly dry, perhaps owing to a slip redundance of hot water pipes at that point, or to some other cause. When such is the case there is always a danger of red spider appearing. To cause a nice atmosphere and to prevent this danger, it is a good plan to procure a few nice clean oak tree leaves, and place them at convenient places, keeping the same always moist. These, if freshly replenished at intervals, will maintain, what seems to me, a beautiful invigorating aromatic atmosphere, which cannot fail to be of service to the plants. On the other hand there are frequently some parts within a house which are very liable to become too wet or cold, owing to exactly opposite causes; and here also every endeavour should be made to modify the effects by using water sparingly there, and by covering the glass outside, when the weather is cold, with garden mats or some other warm material.

The Dendrobiums are now pushing then flower buds. The earliest of all to bloom should be D. moniliforme (japonicum) and those several hybrids claiming it for a parent. These are very pretty little things, easy to grow, and as free to flower. D. × Cassiope and D. × endocharis are even in bloom at this date, without wanting any extra warmth to bring out their flowers. Other hybrids and species will follow in due time. Do not hurry them too quickly. To keep up a succession of bloom a few of the earliest may be taken towards the end of this month from the green-house, or wherever they may be resting, and placed in intermediate temperature, which is quite warm enough to bring on the flowers. Another batch may be taken a week or two later, and so on, but the majority should not be in flower, if possible, until February or March, particularly D. Wardianum, which is apt to come very early unless specially held in check. Should any of these Dendrobes flower prematurely early, do not attempt to force the growth by great heat directly the flowers have faded, but let them **occupy cool quarters until later on in the spring.**

A supply of sphagnum moss should be got in readiness towards the end of this month so that there may be no occasion to stand still for want of compost when repotting commences in the new year. It sometimes happens then that no moss can be had until the frost breaks, which is often a long while. Amongst the earliest Orchids that will require repotting will be some of the Cypripediums which have finished flowering, such as C. insigne and its varieties and hybrids. Small hanging pans should be wired ready for the Dendrobiums, sticks painted, &c., &c., for there is but little time to do this work later on in the growing or potting season.

Answers to the four following questions may be interesting here :—

(1) Cattleya Dowiana from Costa Rica failing to flower. Can I suggest a reason ? All the plants have made strong growth this season, but no sheaths or flower spikes have appeared. They are grown in a lean-to house facing south, specially built for Orchids ; are near the glass, and have but little shading indeed, only on hot bright days ; the temperature has been kept as per your instructions, if anything, a degree or two higher. ——In the first place I must say that this Cattleya Dowiana coming from Costa Rica is a notoriously shy-flowering one. It is not so with the variety C. Dowiana aurea, though so far as the flowers are concerned there is practically no difference between them. There is, however, a slight difference in growth. Both the leaves and pseudo-bulbs of C. Dowiana are shorter and stouter than those of C. D. aurea. The latter will push up flowers almost before the bulb can be said to be quite completed ; whilst the former stays a few weeks before doing so. But the greatest difference is that the Costa Rica variety is most shy to bloom, whilst the other, which comes from the State of Antioquia, about six hundred miles further south, is very free, in fact almost too free to flower. The cultivation seems all that is to be desired. Do what you will with the variety you have, there is sure to be a large percentage each year that will fail to flower. With a view of causing bloom I would not advise you to go into extremes with either bright sunshine or with drought, because if these are excessively given the plants may become stunted and weakly, which would, of course, have the reversed effect. The main object to have in view is to grow the plants as healthy and the pseudo-bulbs as large as possible, for the greater the strength the more freely will they bloom.

(2) In the same house are growing a number of Epidendrum ciliare. The new growths are covered with a sticky substance, so much so as to interfere with the growth. Had the plants been growing properly I think better results would have been arrived at. I am afraid to put them with my cool Orchids, although I know when cool Orchids are grown too warm the same thing as regards this gummy substance occurs with them.——The cause of this over-abundance of sticky substance on Epidendrum ciliare is not so easy to explain. It is certain, however, that the position the plants occupy does not agree with them in some way or another. I am inclined to think that they have too much sun or warmth, or perhaps both. Ours are grown in rather a shady Intermediate house, alongside such plants as Odontoglossum grande and Miltonia vexillaria, where the temperature ranges in winter from 50 to 60 , with sun 65 : and I have not noticed this sticky matter. You could experiment with one plant at the warmest end of your Cool house. But the remainder I should give an intermediate temperature, with not too much bright sunshine.

(3) What is the cause of Lælia anceps not flowering? They are at the coolest end of the Intermediate house, and well up to the light. Is it because I have not given them plenty of water? Do they require an extra supply of this during summer? Perhaps the cause of Lælia anceps not flowering may be due to weakness. It is difficult to imagine any other cause, as the treatment given seems to be all right, although I think the warmest end of the Intermediate house would, in nine cases out of ten, suit them better than the coolest end. By the description given of the house that grows your C. Dowiana so well, I should think that it would make a delightful place for Lælia anceps also, placing them at the driest and sunniest end. Perhaps your plants were disturbed by being re-potted last season, as after this they often miss blooming the next year. Lælia anceps does not require a larger supply of water at the root when growing than any other Lælia or Cattleya. They must, of course, have enough, which is simply a soaking when they become dry.

(4) Large pans full of Cœlogyne cristata failing to bloom. They have been kept dry this autumn, but I can trace no signs of flower spikes. They grow in the coolest house. Cœlogyne cristata grows well enough with the majority of cool Orchids if a little care is given to find a good position for it. But when one has the advantage of more warmth in another house when making its growth it is better to take it. For then the new pseudo-bulbs are apt to grow larger, and, of course, flower better. It should always be removed again about September or October to a cool dry house, remaining there until February or March, with but very little water. The above treatment may not be the means of bringing flowers the first season, but ultimately is sure to do so. That is supposing the plant is in good health, and the mass of bulbs not loose, for the want of peat and sphagnum moss packed into the centre of the plant or anywhere where it is becoming hollow.

ORCHIDS IN THE LAW COURTS.

THE case of Rappart versus the Owen Trustees was reported at page 267, judgment being reserved. We are now informed that judgment was given on November 25th. Mr. Commissioner Kerr observed that it was a very long time since a case had given him so much trouble as this one had done, and he really did not know which way to decide, though possibly some other judge might see his way to do so. He was bound to say, however, that the plaintiff had failed to satisfy him that he did not get the plants intended, and would simply non-suit him, so that he might bring an action in another court. He allowed the defendants their expenses. We reserve any comments on the matter for the present.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

CONSIDERING the season, there was a fine display of Orchids at the Royal Horticultural Society's meeting, at the Drill Hall, James Street, Westminster, on November 14th, including two decided novelties in the beautiful albino forms of Cypripedium Charlesworthii and Cattleya maxima, from the collections of Fred. Hardy, Esq. and Hamar Bass, Esq., respectively, which are described in the following report :—

Hamar Bass, Esq., Byrkley, Burton-on-Trent (gr. Mr. Hamilton), received a First-class Certificate for the beautiful albino, Cattleya maxima alba, in which the whole flower was pure white, with the exception of a broad light-yellow line along the disc, the latter being characteristic of the species. It is further interesting as the first albino of this species which we are able to trace.

Fred. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr. Mr. Stafford), received an Award of Merit for a most interesting plant provisionally called Cypripedium Fred. Hardy, but which we suspect is an albino of C. Charlesworthii. It has the general character of this species, but the leaves have lost the purple markings, the scape is light green, the petals and lip are light greenish yellow, and the dorsal sepal white, with a little purple stain at the base. The staminode is exactly as in the type. When exhibited the flowers were not fully developed. A fine form of Cattleya × Hardyana also came from the same collection.

W. J. Thompson, Esq., Walton Grange, Stone, Staffs. (gr. Mr. Stevens), received a Silver Banksian Medal for a group of fine cut spikes of Cattleya labiata, including a form with very large flowers, Cypripedium × Fascinator, Odontoglossum × Andersonianum, O. gloriosum, O. Pescatorei, O. grande, and several fine forms of O. crispum, to one of which, called var. Golden Queen, an Award of Merit was given. It is a large and handsome form with light-yellow ground and broad segments spotted with brown, as in some forms of O. × Wilckeanum, to which it would be referred but for the fact that the shape is almost that of O. crispum.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), sent a raceme of the handsome white Cattleya labiata Countess Fitzwilliam, and a magnificent inflorescence of Cymbidium Tracyanum with eighteen enormous flowers, to which a Cultural Commendation was given.

H. S. Leon, Esq., Bletchley Park, Bletchley (gr. Mr. Hislop), showed a splendid plant of Lælia pumila præstans with eleven large and richly coloured flowers, including two twin-flowered scapes. A Cultural Commendation was awarded. He also sent Cattleya labiata venosa, a striking form irregularly veined and streaked with darker purple, much in the way of C. l. Peetersii.

G. W. Law-Schofield, Esq., New Hall, Hey, Rawtenstall, Manchester (gr. Mr. Shill), sent a fine pan of Pleione maculata alba with thirty flowers, and a series of coloured drawings, by Macfarlane, of plants in his collection, including Cypripedium × southgatense superbum, C. × Charles Richman, C. × Schofieldianum, C. × Cowleyanum Anne Louise, &c.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), exhibited three very pretty hybrids: Lælio-cattleya × Minerva (L. Perrinii ♀ × C. Lawrenceana ♂), a richly coloured flower, and the pseudobulbs and leaves strongly stained with purple, as in the pollen parent; L.-c. × Homére (L. Perrinii ♀ × C. Percivaliana ♂), fairly intermediate between the parents, though showing the distinct shape of the former; and L.-c. × Meteor (L. Dayana ♀ × C. Bowringiana ♂), which also combines the characters of the two parents, though most like the former in the flower.

H. H. Bolton, Esq., Newchurch, Manchester (gr. Mr. Eastwood), sent a nice form of Cattleya labiata.

Frau Ida Brandt, Riesbach, Zurich, sent Odontoglossum × cristatellum and a richly coloured form of O. Krameri.

J. H. Kitson, Esq., Elmet Hall, Leeds (gr. Mr. Bonsall), sent two nice forms of Cattleya Bowringiana, and a very fine inflorescence of Odontoglossum Uroskinneri with eleven expanded flowers and several buds.

H. Shaw, Esq., Birch Vale, Derbyshire (gr. Mr. Cliffe), showed a fine Cypripedium, apparently derived from C. Lawrenceanum and C. ciliolare, and, perhaps, a form of C. × Smithii. It had the name C. × Hobsoni, but if the records are correct that has a different parentage.

Colonel Wilson, Hillside, Allerton, Liverpool (gr. Mr. Healey), sent a pretty unnamed Cypripedium, said to have been derived from C. bellatulum ♀ and C. callosum ♂.

Messrs. James Veitch and Sons, Chelsea, staged a splendid group of Orchids, to which a Silver Flora Medal was given. It contained a series of the beautiful hybrids raised in the establishment, the principal ones being the handsome Lælio-cattleya × Pallas, L.-c. × Decia, L.-c. × Statteriana, L.-c. × Lady Rothschild (L. Perrinii ♀ × C. Warscewiczii ♂), several Cattleya × Mantinii, C. × Fabiola (C. × Bowringiana ♀ × C. × Harrisii ♂), Masdevallia × Ajax, M. × Asmodia, Selenipedium Boissierianum, S. × Cleola, S. × cardinale, S. × Perseus, Cypripedium × vexillarium, a fine C. × Leeanum, C. × Arthurianum with eight flowers, C. × Minosa, C. × orphanum, C. × T. B. Haywood, C. Bruno var. Roxana (C. Spicerianum ♀ × C. × Leeanum ♂). A First-class Certificate was awarded to the magnificent Lælio-cattleya × Nysa superba (L. crispa ♀ × C. Warscewiczii ♂).

Messrs. F. Sander & Co., St. Albans, received a Silver Banksian Medal

for an interesting group containing several plants of Cattleya labiata, Dendrobium Johnsoniæ, Sophronitis grandiflora, and Lælia pumila præstans, also a good Cyperorchis elegans, the pretty Trichopilia brevis, Phaio-calanthe × Arnoldiæ, Oncidium tigrinum, Cypripedium insigne, C. × Alcides, and Calanthe × albata, a most interesting hybrid between C. veratrifolia ♀ and C. × Cooksoni ♂, most like the former in habit and the latter in the shape of the flowers.

Messrs. Hugh Low & Co., Upper Clapton, also contributed a pretty group containing some fine forms of Cattleya labiata, one with very large flowers, the pretty Cattleya × Minucia, Miltonia Roezlii, and its variety alba. A Vote of Thanks was given.

Mr. R. Gulzow, Melbourne Nurseries, Bexley Heath, also received a Vote of Thanks for a group of good things, including Vanda Sanderiana, Cypripedium Spicerianum, C. insigne punctato-violaceum, C. × œnanthum superbum, and some good forms of Cattleya labiata and Dendrobium Phalænopsis.

Messrs. Garraway & Co., The Nurseries, Clifton, Bristol, sent a curious double flower of Cattleya labiata, or, rather, two flowers fused into one, as is occasionally seen in other Orchids.

ORCHID PORTRAITS.

Aerides Lawrenceæ.—*Gard. Chron.*, Nov. 21, pp. 628, 629, fig. 109.

Cattleya × Le Czar.—*Gard. Chron.*, Nov. 14, pp. 592, 593, fig. 104; *Gard. Mag.*, Nov. 14, p. 775, with fig.

Cycnoches Haagei, Rodr.—*Bot. Mag.*, t. 7502.

Cypripedium × Chapmani.—*Gard. Mag.*, Nov. 21, p. 794, with fig.

Cypripedium Charlesworthii, Low's var.—*Gard. Mag.*, Oct. 31, pp. 740, 744, with fig.

Maxillaria striata, Rolfe.—*Gard. Chron.*, Nov. 21, p. 631, fig. 110.

Phalænopsis × leucorrhoda, *Rev. Hort.*, Nov. 1, p. 500, with plate.

Vanda Sanderiana.—*Gard. World*, Oct. 31, p. 137, with fig.

CORRESPONDENCE, &c.

G. B, Hamburg. 1, Oncidium Kappleri; 2, Gongora bufonia; 3, Odontoglossum Lindleyanum; 4, Oncidium micropogon.

J. W. P., Croydon. Odontoglossum nebulosum candidulum, very good.

R. T., Limerick. Vanda cœrulea, nearly white. Cypripedium Charlesworthii approaches the one described on page 354. The others will be acceptable.

A. P., Brussels. Three forms of Cattleya × O'Brieniana. Oncidium × hæmatochilum, almost exactly identical with the original form. Warscewiczella cochleata and an allied unrecognised form.

F. J. Le M, Chicago. The Sobralias are well preserved. Letter follows.

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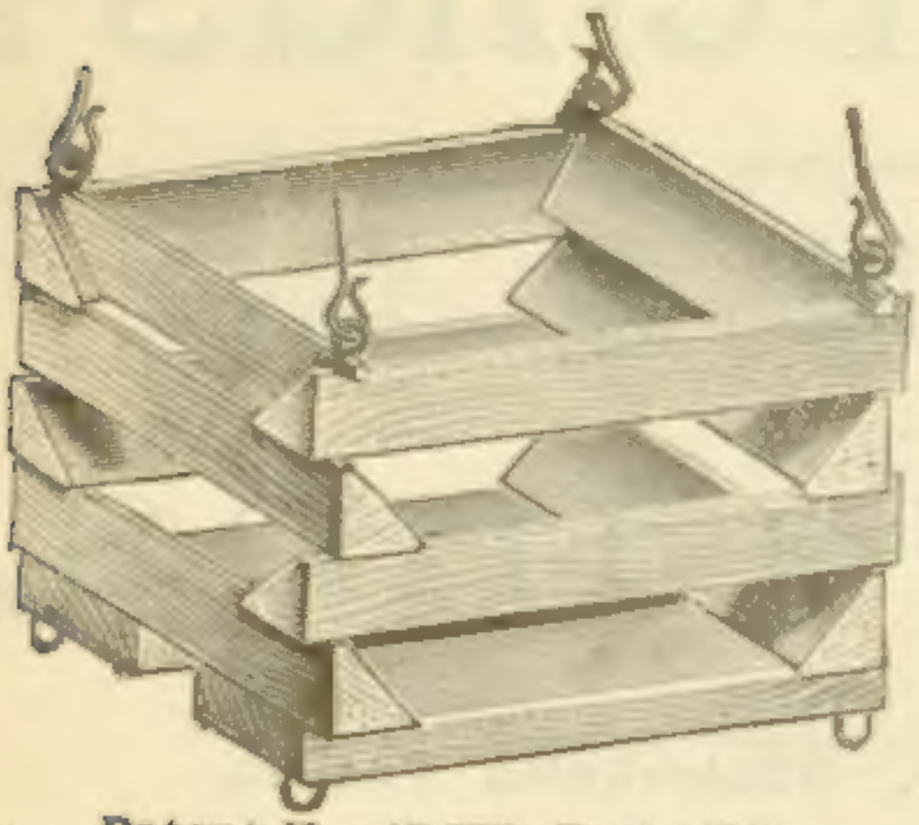

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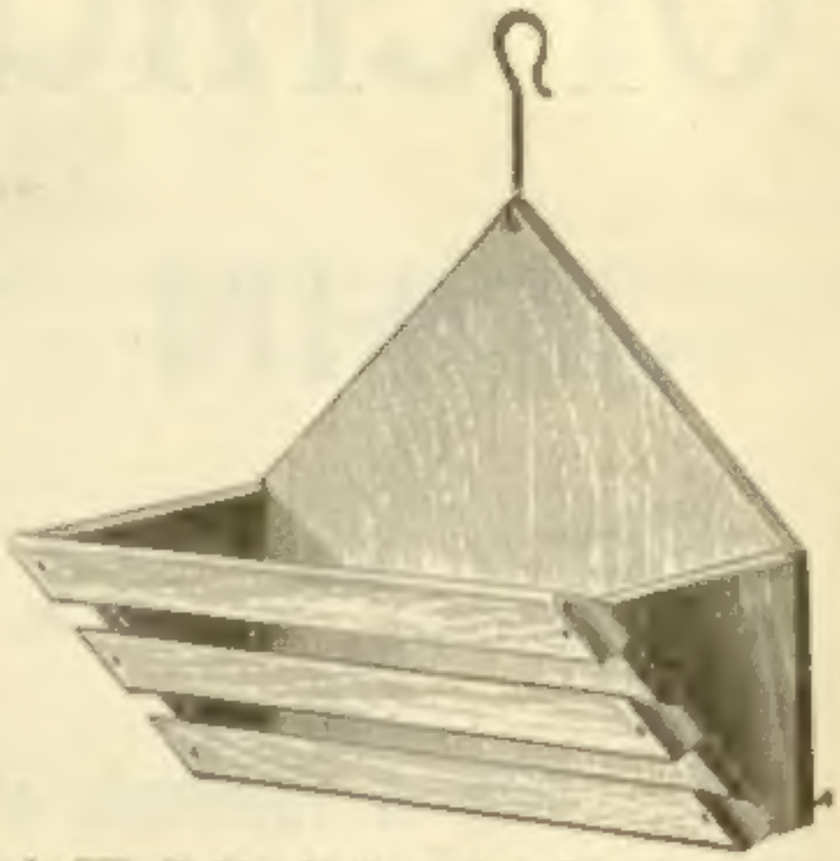

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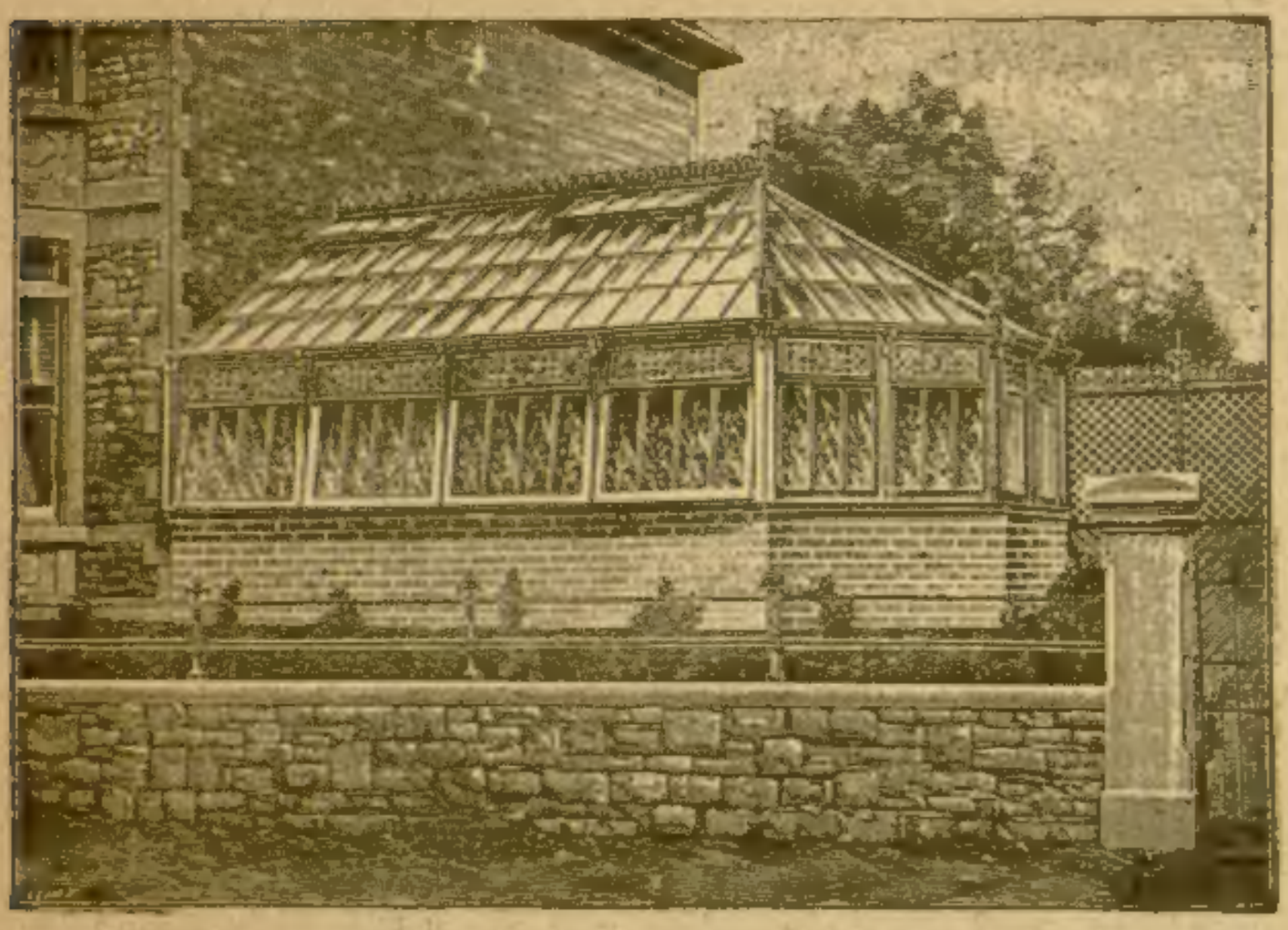

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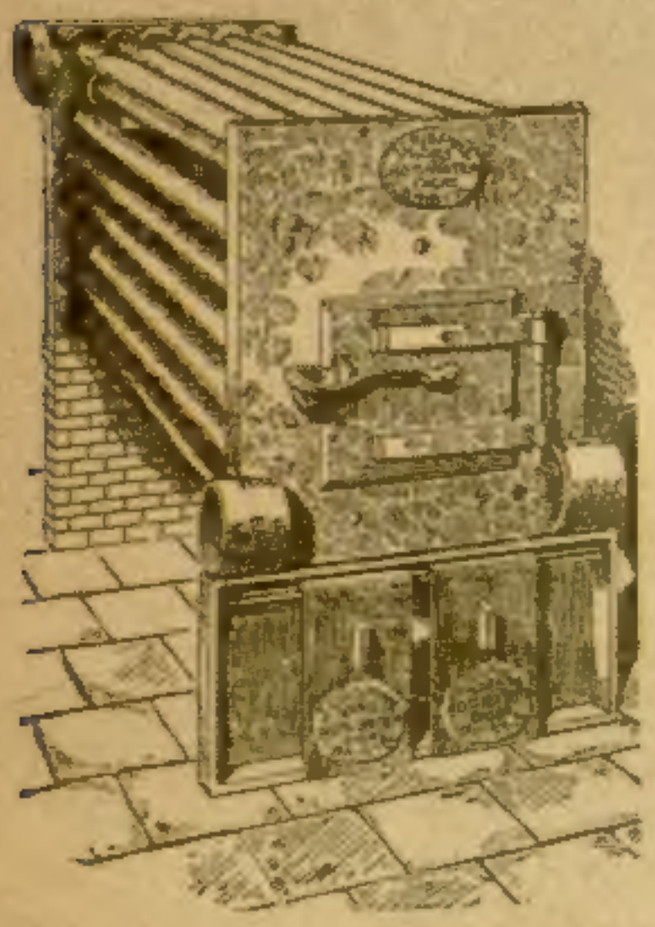

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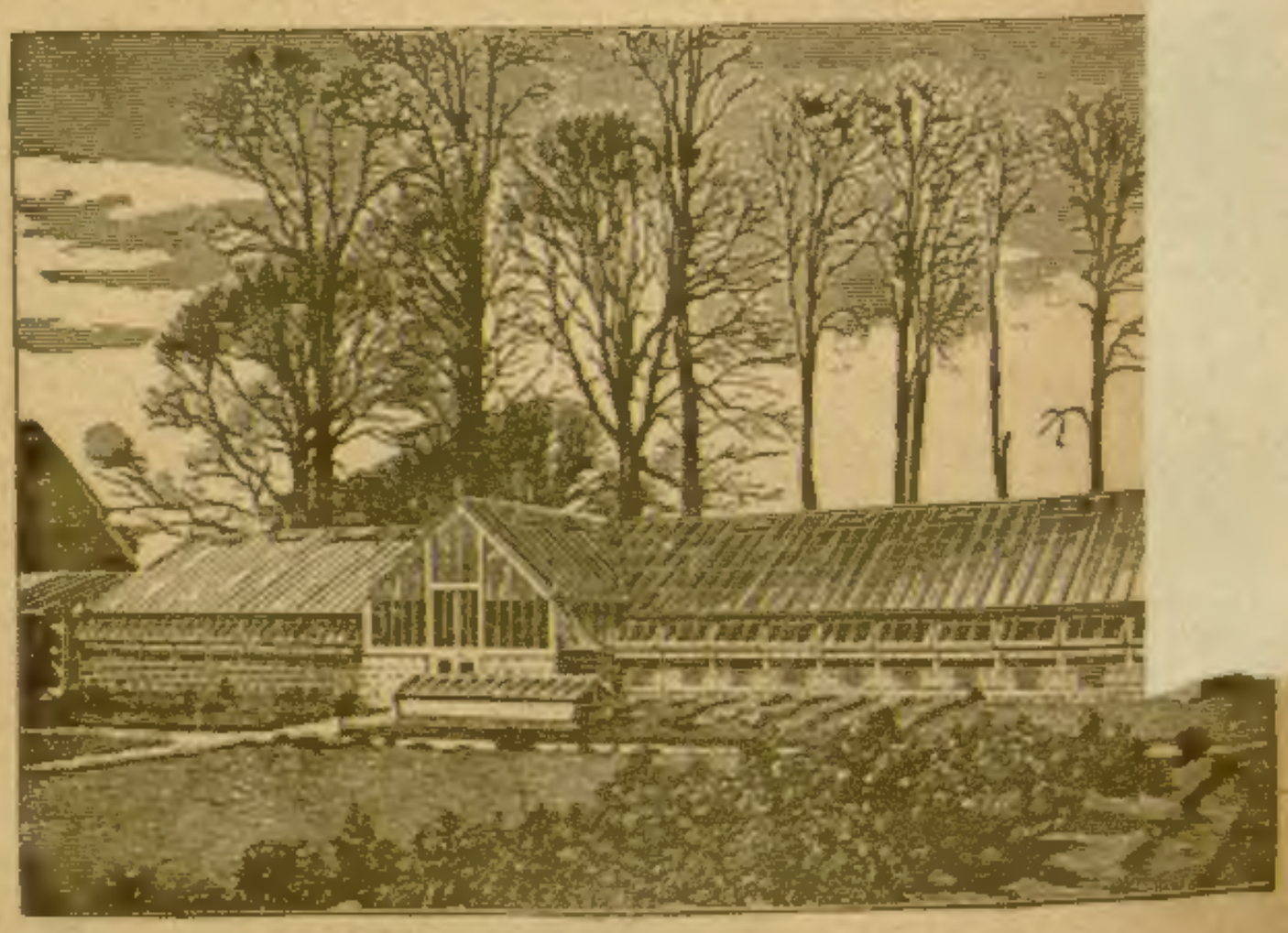

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